Grammar in Early Twentieth-Century Philosophy

Edited by Richard Gaskin



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What is the philosophical significance of grammar? No period in the history of philosophy provides a richer source of materials for the consideration of this question than the period running from the end of the nineteenth century to the Second World War.

In this book, ten essays examine the contributions made to the issue of the philosophical significance of grammar by Frege, Russell, Bradley, Husserl, Wittgenstein, Carnap, and Heidegger. The substantial introduction presents the reader with a systematic perspective on some of the issues explored by these philosophers. The questions raised by these philosophers include the following: If language is about the world, and language is governed by grammar, can the world be said to have a kind of grammar also? If so, what does this grammar look like? Is such a grammar a reflection of some empirical language, or perhaps an idealization of grammatical features of empirical language? Is there a privileged grammar of a natural or artificial language which we can regard as providing us with a unique and privileged access to the metaphysical structure of the world?

This book consists of major research papers written by a team of specialists, all but one published here for the first time. It will be of interest not only to established scholars working in metaphysics and the philosophy of language, but also to graduates and advanced undergraduates specializing in these areas.

Richard Gaskin is Professor of Philosophy at the University of Liverpool, and has held visiting appointments at the Universities of Edinburgh, Mainz and Bonn. He has extensive publications in ancient, medieval and modern metaphysics and philosophy of language, including *The Sea Battle and the Master Argument: Aristotle and Diodorus Cronus on the Metaphysics of the Future* (Walter de Gruyter, 1995).

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Preface

What is the philosophical significance of grammar? No period in the history of philosophy provides a richer source of materials for the consideration of this question than that running roughly from the end of the nineteenth century to the Second World War. This period witnessed a remarkable resurgence of interest in the nature of grammar and its connections with metaphysics, logic, and science, including the new science of linguistics. The relation of grammar to philosophy was investigated with an intensity which established the centrality of this topic in the philosophical canon, and its continuing importance for practitioners is directly traceable to the cardinal role it played in the writings of the major philosophers of this period.

These philosophers did not share a common doctrine on the philosophical significance of grammar, but they all were motivated by the thought that the phenomenon of grammar must be of philosophical significance. Language is about the world, and language is governed by grammar. What does that tell us about the world – that it in some sense has a grammar too? And, if so, what does that grammar look like? Is such a grammar merely a reflection of some empirical language, or of structural features shared by all empirical languages, assuming that there are such features, or is it perhaps an idealization of grammatical features of empirical language? Or, if it is going too far to say that the world has a grammar, is there nevertheless some privileged grammar of a natural or artificial language which we can regard as providing us with a unique and privileged access to the metaphysically deep structure of the world?

These and similar issues were of course not novel in the history of philosophy. For one thing, Aristotle's *Categories* and the rich tradition of commentary and reflection which it generated produced a number of quite sophisticated approaches to them, such as Ockham's subtle and highly influential defence of a stripped-down category theory reflecting a nominalistic critique of Aristotelian grammatical categories; one thinks also in this connection of Leibniz's visionary but necessarily inchoate project of devising (or discovering) a *charateristica universalis* which would, by dint of revealing and more importantly arithmetizing the deep grammar of our

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concepts, hold out the hope of infallibly settling all conceptual disputes. But without wishing to talk down or in any way belittle the value of what their precursors achieved or sought to achieve, it is fair to say that the great philosophers who were active at the end of the nineteenth and during the first half of the twentieth century investigated the question how the grammar of our language relates to the structure of the world in a distinctively new and sophisticated way, employing recently developed powerful logical and philosophical tools which enabled a sharper and clearer focus to be achieved.

I will not here attempt to summarize the contributions to this volume. Their treatments and topics are too diverse to be embraced in a short survey: they range over the better- and lesser-known writings of Frege, Russell, Bradley, Husserl, Wittgenstein, Meinong, Carnap, and Heidegger. I have chosen instead to present the reader, in my editorial introduction, with a partly historical but largely systematic route through some of the issues and philosophers forming the subject matter of this collection. These philosophers' concerns are still so close to ours that, to a degree unmatched by any other area of the history of philosophy, it is difficult to separate historical from systematic issues: at least, it is hard to do systematic philosophy without adverting to the contributions of these thinkers. No doubt that will change with the passage of time, as even twentieth-century philosophy increasingly comes to be thought of as belonging exclusively to the history of the subject; but it is, happily, hard to see any such relegation occurring in the near future. My introduction, aside from being an attempt in its own right to make a contribution to debates current in systematic philosophy, is designed to demonstrate to the reader how the period of philosophy that is the focus of this collection can inform systematic enquiry and speak to our present-day concerns. The introduction is accordingly intended as a polemical guide to the issues and the philosophers it discusses: that is, it presents an argument for a particular position – and one which would not be shared by all, or perhaps any, of the contributors to the collection. But I hope that the reader may find it a useful and even challenging point of entry to the topic of this collection.

With the exception of Alex Oliver's essay, all the contributions are original and appear here for the first time. Oliver's chapter, 'A few more remarks on logical form', is reprinted from the *Proceedings of the Aristotelian Society XCIX* (1999), 247–72, by courtesy of the Editor of the Aristotelian Society: © 1999.

I would like to thank all the contributors for their helpful co-operation during the editing of this collection, which made that task both pleasurable and instructive. I am particularly grateful to Stewart Candlish for assisting me with the preparation of several of the papers. Finally, I am indebted to my wife Cathrin and my son Thomas for their good-humoured companionship throughout all stages of the book's preparation.

Introduction

Proposition and world

Richard Gaskin

Russellian propositions, Fregean senses, and facts

According to Russell's account of the composition of propositions in his *Principles of Mathematics* a proposition consists not of words or senses, but of 'the entities indicated by words' (1903: 47), which Russell calls 'terms'. There we are told:

Whatever may be an object of thought, or may occur in any true or false proposition, or can be counted as *one*, I call a *term*. . . . A man, a moment, a number, a class, a relation, a chimaera, or anything else that can be mentioned, is sure to be a term.

(1903:43)

Russell's 1903 treatment of propositions as containing worldly things was not an entirely new departure in the history of philosophy. Russell himself traced his view back to G. E. Moore's 1899 paper 'The Nature of Judgment', though he also indicated that he thought there were important differences between his handling of his key notion of a term and Moore's corresponding notion of a concept. In fact the Russellian approach – or something like it – is much older than 1899. For the view that there are propositions *in rebus*, or propositions which, though located in the mind, contain worldly things, was defended by a number of medieval thinkers.²

In the modern literature on reference, it is customary to identify what are called 'Russellian propositions' with ordered *n*-tuples of objects and/or properties.³ To take a simple example, the Russellian proposition corresponding to the sentence 'Socrates is wise' would be the pair (Socrates, wisdom). It is often held that we may, without undue anachronism, construe Russell's 1903 position as involving the claim that (Socrates, wisdom) is the meaning of the sentence 'Socrates is wise'. This contention seems to me basically correct, though for systematic purposes the above characterization of Russellian propositions needs further refinement, which I shall give in due course. For the moment, however, it will not be necessary to work with any very precise understanding of what Russellian propositions

look like. We can start with the following rough characterization: Russellian propositions are meanings of declarative sentences, and are composed in some way of the worldly entities introduced by the semantically significant parts of those sentences, centrally objects and properties.

If Russellian propositions exhaust the meanings of declarative sentences, it will follow that where 'a' and 'b' are co-referring names, 'Fa' and 'Fb' do not present different propositions; and this was indeed a position maintained by Russell throughout the period 1903 to 1918: 'you make exactly the same assertion whichever of the two names you use' he tells us in 1918 (1956: 245). The Russellian view may be contrasted with a Fregean one, according to which a 'third realm' - the realm of sense (Sinn), distinct both from the realm of reference (Bedeutung) and from the realm of ideas (Vorstellungen) – must be admitted to our metaphysical economy, to register the fact that when items of spoken and written language, centrally names and predicates, present entities in the world, centrally objects and properties (i.e. saturated universals such as wisdom) or concepts (i.e. the unsaturated entities which are Frege's own preferred candidate for the referents of predicates),⁴ they present those worldly entities not barely, but in some particular way, which is of semantic and epistemological significance. Frege located propositions, which he called Thoughts (Gedanken), at the level of sense: its constituents are then appropriately conceived as senses, rather than the objects presented by those senses.

If we ask where *facts* are located in the metaphysical economy, assuming that facts are identical with true propositions, ⁵ we will receive different answers depending on whether we adopt a Russellian or a Fregean position: a Russellian identifies facts with true Russellian propositions, which are denizens of the world, or at least composed of worldly entities; a Fregean identifies facts with true Fregean Thoughts, which are denizens of Frege's 'third realm'. ⁶ The general framework also makes available a hybrid position, not claimed by either of these historical figures, according to which we combine a tripartite approach to semantics in the style of Frege, recognizing distinct levels comprising items of spoken and written language, sense, and reference, with a Russellian approach to propositions (and facts), locating these not at the level of sense but at the level of reference, or alternatively (the position I shall go on here to endorse) locating some of them at the level of sense and some at the level of reference.

Neo-Fregeanism

In the writings of a neo-Fregean like John McDowell, we find a position which is close to, but not quite the same as, Frege's historical position. McDowell identifies propositions – the things which, if true, are facts – with Fregean Thoughts. But there is no suggestion that these items belong to a 'third realm'. On the contrary, for McDowell facts – true Thoughts – make up *the* world, the only world there is. McDowell reaches this position by

starting from the truism that the sort of thing one can think (e.g. *that Spring has begun*) is the sort of thing that can be the case (1994: 27). That yields either an incorporation of the realm of sense into the realm of reference, or an incorporation of the realm of reference into the realm of sense, and McDowell makes it clear that it is the latter incorporation he has in mind:

Given the identity between what one thinks (when one's thought is true) and what is the case, to conceive the world as everything that is the case (as in *Tractatus Logico-Philosophicus*, §1) is to incorporate the world into what figures in Frege as the realm of sense. The realm of sense (*Sinn*) contains thoughts in the sense of what can be thought (thinkables) as opposed to acts or episodes of thinking. The identity displays facts, things that are the case, as thoughts in that sense – the thinkables that are the case.

(1994: 179)

Now the incorporation of the realm of reference into the realm of sense is, as McDowell concedes (ibid.; cf. 27f.), a move which smacks of an unacceptable idealism. For surely, one is inclined to object, an incorporation of the realm of reference into the realm of sense must destroy any connection between our thinking and a world *beyond* thinking, and hence must forfeit its entitlement to the *contentfulness* of thought, which in turn is tantamount to undermining the very existence of thought itself. Surely, then, such an attempted incorporation must dismantle itself. In more prosaic terms, one might say, the move seems to commit some kind of category mistake: for given that senses are modes of presentation *of* referents, how can facts be composed of senses *and* referents?

Of course, 8 if the neo-Fregean position were taken to be constructed out of integral Russellian and Fregean components crudely juxtaposed – if facts were conceived as constituted by referents and senses as equal partners, adjacent to one another, as it were, and only externally related - then the prospects for the coherence of such a botched-together view would indeed be remote. But that understanding of the neo-Fregean position is not forced on us by its official characterization; that facts, though worldly entities, are incorporated into the realm of sense. The right way to understand this characterization is presumably the following. Facts are composed – in the first instance, one might say – of senses, and then, derivatively – since senses are modes of presentation of referents – they are composed of referents. But senses and referents are exactly not equal partners in the business of constituting facts. A particular sense necessarily comes together with the referent it presents, but not vice versa. As it is traditionally expressed, sense determines reference, but not vice versa. The world is not constructed by tacking senses on to referents conceived as given in advance of senses; rather, referents simply fall out of a world whose basic stuff is composed of senses. In creating a world of senses, to put it in mythological terms,

the demiurge *eo ipso* created a world of referents. Since objects belong in the world of reference,⁹ we can say that in creating a world of senses, the demiurge *eo ipso* created a world of objects. To have *senses* figuring in one's cognition is precisely what it takes for one to cognize the *world*: senses do not figure in one's thought *faute de mieux*, so that one's thinking in some way falls short of the world. To give an analogy, if one manages to find a way of dancing, one has *eo ipso* managed to dance; to find a way of dancing is not to fall short of dancing, it is not to get stuck at some intermediate stage, but to dance.¹⁰

The location of propositions

Nevertheless, it seems to me that the neo-Fregean picture fails to rebut the charge that it embraces an unacceptable idealism. I shall explain my reason for accepting the charge below, in the context of putting forward my own positive proposal about the right way to construe Russellian propositions (pp. 14–16). Before that, I need to expose another respect in which I think the neo-Fregean picture goes wrong.

This is its allocation of facts – more generally, propositions (true and false) – exclusively to the level of sense. Now in the context of a distinction between sense and reference for names and predicates, this feature of the neo-Fregean economy cannot be justified. If objects and properties can be presented in different ways, then so too can entities, such as Russellian propositions, which objects and properties combine to make up. Propositions cannot, once a distinction between sense and reference is on the table, be located exclusively on the sense side of the sense-reference divide, on pain of introducing the sense-reference distinction into contexts where it is irrelevant. For if we insist on housing propositions exclusively at the level of sense, we disable ourselves from ever treating them extensionally. But there will be many contexts in which we will want to do just that. For example, while we may for some purposes wish to say that the proposition (and fact) that Hesperus is Phosphorus is a different proposition (fact) from the proposition (fact) that Hesperus is Hesperus (here identifying the propositions in question with Fregean Thoughts, and facts with true propositions, so understood), we will surely want to say that the proposition (fact) that Paderewski (thought of as a musician) is talented is the same proposition (fact) as the proposition (fact) that Paderewski (thought of as a politician) is talented (again identifying facts with true propositions).¹¹ It would be right, for instance, for someone who, let us say, thinks of Paderewski as a musician, and who overhears someone else who, let us say, thinks of Paderewski as a politician and who utters a sentence of the form 'Paderewski is talented', to report this latter person as having said that Paderewski is talented, even though the two actors in this scenario associate different senses with the name 'Paderewski'. In fact it is not even the case that fair reportage always demands that one retain the same name

as that used by the subject of one's report. In some contexts an assertion that a is F can be fairly reported as an assertion that b is F (assuming that a is b), if, for instance, the report's audience is familiar with the name 'b' but not with the name 'a', and if nothing turns on retaining the particular name employed by the original speaker. In cases like these, though what the speaker actually said was (schematically) 'a is F', he can be reported as having expressed the *proposition* that (schematically) b is F, even though these (schematic) sentences express distinct (schematic) Fregean Thoughts. That shows that we need an extensional as well as an intensional notion of proposition, i.e. that we need to discern propositions obtaining at the level of reference as well as at the level of sense.¹²

In the example I have just given we have to do with a quite general truth about proper names, the fact that, as Gareth Evans put it, 'the single main requirement for understanding a use of a proper name is that one think of the referent' (1982: 400), and hence that names may figure in successful communicative episodes even though speaker and hearer think of the relevant referent in quite different ways. These ways may be sufficiently different to generate distinct Fregean senses, where distinctness of sense is governed by a principle which Frege expresses several times¹³ and which Evans calls the Intuitive Criterion of Difference (1982: 18f.): according to this criterion, sentences differ in sense just in case someone can, without irrationality, take different cognitive attitudes to them (accepting or rejecting one but not the other); where such sentences differ only in point of replacement of a single expression occurring in one by a congruent but distinct expression in the other, the difference in sense of the sentences as wholes will be accounted for by positing a difference in sense in respect of these distinct expressions. The distinct expressions in question need not be phonologically or morphologically distinct. Thus, in the 'Paderewski' example cited above, different senses may be associated with the name 'Paderewski', thus in effect generating the presence in the language of two distinct though phonologically and morphologically identical names. This phenomenon may arise even within a single person's linguistic repertoire. That is because a subject may, without irrationality, deny that Paderewski (thought of in one way) is the same man as Paderewski (thought of in another way), and may come to realize, perhaps with a flash of illumination, that Paderewski (thought of in one way) is Paderewski (thought of in another way).

But, for the purposes of semantics, we do not want to cut senses as finely as may be necessary to meet the demands set by the Intuitive Criterion of Difference: no composer of a theory of meaning for a language would wish to incorporate multiple clauses for a name such as 'Paderewski', corresponding to the multifarious ways in which speakers of the language in question think of that man. Epistemologically speaking, then, Fregean sense may play a role which is semantically without significance. That does not mean that there is no place for a purely semantic conception of sense, but any such conception will, at least in the case of proper names, be a

relatively thin notion, no more than what one might call the internal accusative of the reference relation: for a name to have sense, in this sense of 'sense', is just for it – that very name – to have a referent. For in having a referent the name necessarily has reference – where this latter word has its full force as a verbal noun, and is not a synonym of 'referent' – and, on the semantic conception of sense, there is no distinction to be drawn between sense and reference (verbal noun), notwithstanding the clear distinction which obtains between sense and referent.¹⁴

Traditionally, so-called singular-proposition theorists have erred in locating propositions exclusively at the level of reference. This strategy fails because it does not yield sufficient fineness of grain in many contexts, 15 and such theorists have sometimes recognized the need to compensate elsewhere in their theory for the coarseness of Russellian propositions located at the level of reference. 16 My argument in this section has been, in effect, that to respond to these problems by locating propositions exclusively at the level of sense would be an overreaction. In some contexts, certainly, fineness of grain is wanted in the individuation of propositions; but in other contexts what is required is rather coarseness of grain, including, sometimes, the coarsest possible grain, namely in cases where sense plays no role in establishing criteria of fair reportage.¹⁷ To deal with these contexts, we need to make room for propositions at the level of reference as well as at the level of sense. That is to say, we need to conceive not only of Fregean Thoughts as propositions, but of what Fregean Thoughts present in the realm of reference as propositions too: the propositions figuring at the level of sense will naturally be composed of senses, i.e. of modes of presentation of (centrally) objects and properties; those figuring at the level of reference will naturally be composed of (centrally) the corresponding objects and properties themselves, and hence will coincide with what I am calling 'Russellian propositions'.

Russellian propositions and Carnapian intensions

The semantics I am recommending involves a departure from Frege's own picture of what corresponds to Thoughts in the realm of reference, namely truth-values. Frege's argument for making truth-values the referents of declarative sentences is that under intersubstitution of co-referential parts of a sentence, while the thought introduced by the sentence may change, its truth-value will not. But once Russellian propositions are on the scene as a candidate for referential status, this argument is insufficient, because it is equally the case that the Russellian proposition introduced by a declarative sentence will not change under intersubstitution of co-referential parts of the sentence. Further, if we are employing reference as our central semantic notion, according to which the referent of an expression is just what an adequate theory of meaning for the language in question will specify as what an understander needs to think of, and what it suffices for

him to think of, in order to count as understanding the expression (or, to put it in Russellian terms: the referent of an expression is just the concrete or abstract object which an understander needs to be acquainted with, and which it suffices for him to be acquainted with, in order to count as understanding the relevant expression), ¹⁹ then it will not be an option to select truth-values as the referents of sentences. ²⁰ For it is in general neither necessary nor sufficient for the understanding of a sentence that one know its truth-value. That it is not necessary is obvious. The reason why it is not sufficient has to do with the Principle of Compositionality: we must conceive of the object of the understander's acquaintance at the level of reference corresponding to sentences at the level of spoken and written language as being *composed* of other entities at the level of reference (in the simplest case, of an object and a monadic property). Frege's preferred candidate for what a sentence refers to is too crude to do justice to this important principle, for sentences with the same truth-value may express propositions composed of distinct objects and properties. The entities which we discern at the level of reference corresponding to the spoken and written sentence must be as finely individuated as the Principle of Compositionality requires, and only Russellian propositions, which are by definition composed of the entities at the level of reference corresponding to all the semantically significant parts of the sentence, can meet this requirement.

Frege's full picture of the composition, at the levels of spoken and written language, sense and reference, of a simple categorical sentence (one composed of a proper name and a monadic predicate) was conveniently sketched by him in a letter to Husserl of 24 May 1891 (1976: 94–8):

Declarative sentence (Satz)	proper name (Eigenname)	concept- word (Begriffswort)	
\downarrow	\downarrow	\downarrow	
sense of sentence (Gedanke)	sense of proper name	sense of concept-word	
\downarrow	\downarrow	\downarrow	
referent of sentence i.e. truth-value	referent of proper name i.e. object	referent of concept-word, → i.e. concept (<i>Begriff</i>)	object ²¹ falling under the concept

I have already remarked that Frege's reason for taking truth-values to be the referents of declarative sentences is inconclusive: as far as the consideration he adduced goes, we might as well take Russellian propositions to be the referents of sentences. Given further that, as I have argued, we require an extensional conception of propositions as well as an intensional one, we must locate Russellian propositions somewhere on the above map, and now the Principle of Compositionality forces us to jettison Frege's candidate for sentential referents, truth-values, in favour of entities composed of the other referential entities in the picture, namely objects and concepts (or properties), that is, in favour of Russellian propositions. This is not a trivial change since, as I have also remarked, there is a clear clash between Frege's preferred candidate for the referents of sentences and mine: for sentences with the same truth-value may express distinct Russellian propositions. But there is a way of mitigating the appearance of clash between Frege's candidate for the referents of sentences and mine.

To see what is required we need to ask why Frege draws the column for the sense and reference of concept-words in the way he does. In particular, why does Frege not treat the object(s) satisfying a concept-word as its referent? The reason, as he explains to Husserl (ibid.), is that a conceptword may be empty - it may be the case that nothing satisfies the corresponding concept – without its ceasing to be scientifically useful. Indeed, our very ability to say of certain concept-words ('witch', say) that they are empty depends upon their having reference: otherwise nothing would be expressed by our form of words (the sentence 'There are no witches' would be meaningless). Hence, in the case of concept-words, we need to draw a distinction between reference and satisfaction: that a meaningful concept-word must have reference is just truistic, but it by no means follows that it must be satisfied by anything. It is arguable that no such distinction is either required or admissible in the case of at least some proper names, which we may call 'genuine' proper names. Empty names purporting to be genuine proper names have no sense and express nothing: purported statements containing such names are literally senseless.

Of course this does not hold in general of the category of proper names as recognized by Frege, for this category includes definite descriptions. And, as Russell argued, definite descriptions may be empty without forfeiting meaning; hence they may be empty without forfeiting either sense or reference, once the intuitive notion of meaning has been subdivided into these further species (as it was not by Russell himself). It is of course a matter of controversy exactly how the semantics of definite descriptions should be characterized, but it should be uncontroversial that there are at least some 'pure' uses of such descriptions for which the slogan 'no (satisfying) object, nothing expressed' fails. Hence our general account of the semantics of definite descriptions must distinguish between reference and satisfaction: that a definite description must, like any other semantically significant linguistic unit, have reference is just truistic; but whether a definite description is satisfied by anything or not is not a semantical question, and so not the concern of the theorist of meaning. But if Frege's excessively broad category of proper names is narrowed so as to exclude such descriptions (and presumably also those ordinary proper names which abbreviate pure descriptions), then the 'proper name' column of the Fregean diagram can be sustained. It is important to note that, in the resulting position, for

genuine proper names as for all other linguistic expressions,²² the principle that sense *determines* reference, i.e. that a sense necessarily presents a referent (equivalently: that if a purported expression at the level of spoken and written language fails to have reference, it has no sense either), holds.²³

Frege's separation, in the case of concept-words, of the question of reference from that of satisfaction is convenient when one comes to consider modal discourse, something in which Frege himself took no interest. For one wishes to say that concept-words which have the same extensions in the actual world, but distinct extensions in other possible worlds, have different references. But there is nothing to prevent us from identifying the referents²⁴ at least of semantically simple concept-words with their socalled Carnapian intensions, i.e. with functions from possible worlds and times to sets of objects, 25 such that the function keyed to a given conceptword maps each world/time pair to the set of objects satisfying the concept-word in that world at that time. (It is important here to stipulate that the identification proceed only in respect of semantically simple expressions, for it is possible for complex expressions which have distinct references – because they are composed of items having distinct references – to enjoy the same Carnapian intensions.)²⁶ That then enables us to simplify the right-hand column of Frege's picture, provided we note that the picture applies just to simple categorical sentences. Once we have suitable Carnapian intensions in place as the referents of semantically simple concept-words (i.e. as what concepts – or, as we might prefer to say, properties – are),²⁷ we are obliged to construe the referents of declarative sentences not as sheer truth-values, but as their (the sentences') Carnapian intensions, i.e. as functions from possible worlds and times to truth-values.²⁸ And now nothing stands in the way of identifying *simple* Russellian propositions with these functions.²⁹

That still leaves a gap, however, between *complex* Russellian propositions and their corresponding Carnapian intensions: these complex propositions are related many—one to the corresponding Carnapian intensions, and hence determine them; but there is no reverse relation of determination, so that there can be no question of a general identification between Russellian propositions and their corresponding Carnapian intensions. (In the general case Russellian propositions will be identified with the objects, properties and structures of composition given by the phrase markers which specify how the proposition is built up.)³⁰ Hence, while there is a rapprochement between my approach to sentential reference and an approach which is arrived at by modifying Frege along Carnapian lines, there is no question of a complete harmony.

Co-referentiality and intersubstitutability

It is natural to object to any position, such as Frege's or mine, which envisages referents for declarative sentences (truth-values, Russellian

propositions) on the basis that if such sentences designate entities, of whatever sort, they must be intersubstitutable (at least in transparent contexts) with any co-designative names salva veritate. But they are plainly not so intersubstitutable: they are not even intersubstitutable salva congruitate. let alone salva veritate. An objection along these lines has recently been propounded by Ian Rumfitt (1996), though the point is an old one.³¹ Rumfitt argues that co-designation entails intersubstitutability salva veritate (at least in some contexts), remarking that to cut the notion of co-designation off from that of intersubstitutability in what he calls semantically 'central' contexts 'would surely be to deprive the relevant notion of an important conceptual anchor' (1996: 71).³² But I have already provided the notion of reference or designation with its conceptual anchor – the referent of an expression of spoken or written language is what the understander needs to think of, and what it suffices for him to think of, 33 in order to count as understanding that expression - and nothing follows from this characterization about intersubstitutability: all that follows is that if two items of language are co-referential then the understander of them should think of the same thing. Intersubstitutability (in some contexts) salva veritate we may regard as a function of co-referentiality and appropriate semantic category, not merely of the former. Declarative sentences and purportedly co-referential names belonging to a different semantic category (e.g. 'the True', or 'that proposition') will fail to intersubstitute (salva congruitate, and so a fortiori salva veritate) for just that reason – that the semantic categories are different – and not because, after all. they are not co-referential.34

The reference of concept-expressions

Frege's reason for not treating the objects which satisfy a concept-word as its referent is inadequate. The fact that a concept-word may be empty without that word's ceasing to be scientifically useful is of course correct, but all that shows is that in such cases it is not an option to say that the concept-word has no referent at all: it does not show that, where concept-words *are* satisfied by one or more objects, those objects cannot be the referent of the relevant words. We might satisfy Frege's demand that scientifically useful concept-words always be assigned a referent by finding some appropriate object – say, the empty set – to serve as the referent of empty such words, while maintaining that non-empty concept-words refer to the objects which satisfy them. The objection to *this* position – which, so far as its treatment of non-empty concept-words goes, certainly was the one adopted by William of Ockham,³⁵ and is imputed by Frege to Husserl – is not that it renders a satisfactory semantics for empty concept-words impossible, but rather that it is subject to a certain vicious circularity.³⁶

For suppose that the referent of the concept-word 'green' is just all the green objects. That means (given the conception of reference we are working with: pp. 6–9), that in order to understand this concept-word an understander needs to be acquainted with those objects, and needs to think of them when entertaining that concept-word. But that in turn means that the understander's understanding of that concept-word will consist in knowledge of the truth-values of a (presumably infinite) number of predications of the form 'a is green', where 'a' holds place for a suitable name or demonstrative expression. Quite apart from the surely excessive demand thereby placed on understanders, the requirement subjects the understander to an intolerable epistemic bind, for it is plausible that, in order to know whether a predication of the form 'a is green' is true, one must first understand it. The circularity which ensues is vicious.³⁷ Of course, there must be some connection between understanding the concept-word 'green' and identifying particular objects as green. Plausibly, to understand that concept-word is to be able, in favourable conditions, to settle the truth of predications of the form 'a is green'. But having that ability falls well short of knowing, in advance of giving consideration to any particular predication of that form, which objects are green. The position which Frege is attacking, and which was indeed Ockham's, is thus untenable, though not for the reason Frege gave.

As far as the charge of vicious circularity goes, the Ockhamist position can be remedied if, instead of identifying the referent of a non-empty concept-word with just the objects which satisfy it, we identify that referent with the set of such objects. The move from the concrete (at least in the case of objects satisfying concept-words like 'green') to the abstract obviates the circularity problem, because there is no obligation to construe acquaintance with a set as requiring acquaintance with its members (together with the knowledge that they are its members). Instead, it is open to us to say that it suffices for acquaintance with a set of objects that one have knowledge of the membership condition of that set, an achievement which we can, in turn, identify with an ability, in favourable circumstances, to settle whether a given object is a member of the set or not. Being acquainted with the set of green objects amounts, on this account, to being able, in favourable conditions, to settle whether a given object is green or not. (There is no prospect here of a more informative specification of the membership condition, which is that an object is a member of the set if, and only if, it is green. But that is no objection to the account.) Having this general ability is not constituted by knowledge of the truth of any relevant predications; which is the result we require to avoid the circularity problem.

But of course we cannot rest content with an identification of the concept which the concept-word 'green' refers to with the set of green things. For one thing we need to take into account a point which was noted by Walter Burleigh, in opposition to an Ockhamist account.³⁸ Green things are constantly coming into and going out of existence, but the concept-word 'green' is not at the same time undergoing change of meaning: hence we cannot identify the meaning (referent) of that concept-word with the set of

currently green objects. Strictly, Burleigh's point would be met by extending the membership of the set of green objects to include all objects which ever have been, are, and ever will be green.³⁹ But this adjustment does not go far enough to solve two residual problems.

One problem is that the adjustment does not take account of modal discourse. Since sets necessarily have the members they have, a statement such as 'That wall might have been green', said of a wall which is in fact white throughout the period of its existence, would come out false, whereas it ought (in normal circumstances) to be true. The second problem is that, although we have allowed that knowledge of the membership condition of a set is sufficient for acquaintance with that set, it would be quite implausible to hold that such knowledge is also necessary. For we must allow that someone who knows de re which things are members of the set in question, even if he is unaware that they satisfy some common interesting condition (i.e. something more interesting than the trivial condition of being members of just that set), is acquainted with the set. But then it might be held that it is at least in principle possible for someone to be acquainted with the set of green things – even when this is taken to contain all objects which are at any time green – without knowing that they are green, that is, without realizing that their satisfying that condition is exactly what makes them members of this set, and so without genuinely understanding the concept-word 'green'. It follows that in order to understand that word it is not sufficient to be acquainted with the set of (any or all of) the objects that actually are (at any time) green. It is, of course, necessary to be acquainted with that set in order to understand the concept-word 'green': for we have allowed that knowledge of the membership condition of the set suffices for acquaintance with it, and we have identified knowledge of that membership condition with understanding the concept-word in question, so that it follows that being acquainted with the set is a necessary condition of understanding the concept-word; but, to repeat, it is not sufficient. (Nor, as we have seen, is it necessary to have de re acquaintance with the members of the set, for one may dispose of an understanding of the word just if one has the ability to settle, in favourable conditions, whether a given object is green, and one may have that ability without knowing in advance the truth of any predication of the form 'a is green'.) 40

We simultaneously solve both the problems mooted in the last paragraph if we adopt the strategy I have already recommended, and identify simple Fregean concepts with their Carnapian intensions. That strategy yields the right result for modal discourse, and it also delivers something acquaintance with which we may plausibly take to be necessary *and* sufficient for understanding corresponding concept-words. It might seem here as if an analogue of the second problem threatened the proposed identification: could one not imagine a subject acquainted *de re*, so to speak, with the Carnapian intension of 'green' – that is, acquainted with the mapping from possible worlds and times to sets of objects – but ignorant of the meaning

of 'green', in the sense that he would have no inkling of what all these objects had in common? No: the worry underestimates the epistemic achievement of being genuinely acquainted 'de re' with the Carnapian intension of 'green'. The point is that acquaintance with a mapping from possible worlds to sets of objects (we can abstract from time here) would require acquaintance with the relevant possible worlds themselves, and that in turn would require one to know (of all worlds other than the actual world, which we can presumably identify ostensively) which sentences are true at any given such world; for that is how non-actual possible worlds are individuated. Hence one could not be merely acquainted 'de re' with the Carnapian intension of 'green' without knowing, in the case of worlds other than the actual world, which things were green in those worlds, and that would in turn require one to think of the green objects in those worlds as green (as satisfying the schema 'a is green').

But one might now wonder whether a recurrence of the vicious circularity problem which plagued Ockham's semantics would undermine the possibility of acquaintance with the Carnapian intension of 'green': would not such acquaintance have to embrace knowledge of which sentences (and. in particular, which sentences of the form 'a is green') were true? No. As I noted in passing above, one can (and presumably must) identify the actual world ostensively, not in terms of which sentences are true in it. In fact, quite apart from the circularity problem, it would be impossible to have an understanding of 'green' based on (i) knowledge of which objects were (in fact) green in the actual world and (ii) which sentences of the form 'a is green' were true in non-actual possible worlds, for that would destroy the univocity of the word 'green': it would have one meaning in its application to the actual world, where it would refer to the objects which are in fact green, and another in its application to non-actual possible worlds, where it would refer to a function mapping those worlds to sets of objects – just those objects satisfying the schema 'a is green' in those worlds (again I abstract from time). Knowledge of the meaning of the word 'green' would, on this basis, be de re in respect of the actual world but not in respect of non-actual worlds; but that entails that 'green' would have meant something different (understanding it would have required a different ability) had some other world been actual, which contradicts the univocity of the word.

If we are to preserve the univocity of the word 'green', we must insist that acquaintance with the Carnapian intension of 'green' is constituted by knowledge of the membership condition of this intension (which is a set, comprising ordered pairs of world/time pairs and objects), an achievement which, as I argued in the last paragraph but one, is not distinct (as we saw it was distinct in the case of the simple set of green objects) from having de re acquaintance with the relevant set (the Carnapian intension). Since knowledge of the membership condition of this set (the mapping from world/time pairs to green objects) is tantamount to knowledge of the membership condition of the set of objects constituting the range

of the mapping – i.e. the set of actual and possible green objects – and since knowledge of the membership condition of the set of actual and possible green objects is, as I have suggested, equivalent to understanding the concept-expression which collects the set of actual and possible green objects, we have the result that acquaintance with the Carnapian intension of 'green' is equivalent to understanding the word 'green'.

A revised semantic map

The revised map of the relations between the levels of spoken and written language, sense and reference, for the case of the simple categorical sentence, looks like this:

Declarative sentence	proper name	concept-word
\downarrow	\downarrow	\downarrow
sense of sentence	sense of proper name	sense of concept-word
\downarrow	\downarrow	\downarrow
referent of sentence i.e. Russellian proposition = function from possible worlds/times to truth-values	referent of proper name i.e. object	referent of concept-word i.e. concept = function from possible worlds/ times to sets of objects

Now there is a good sense in which the items in the lower levels of this map determine items at higher levels. Thus for example objects (the referents of proper names) determine equivalence classes of proper names, the relevant equivalence relation being 'x has the same referent as y', where the variables range over (actual and possible) proper names. And objects also determine equivalence classes of senses of names, the relevant equivalence relation being 's presents the same object as t', where the variables range over (actual and possible) senses of names. Similarly, senses of names determine equivalence classes of (actual and possible) names. Is any closer relation than one of determination in the offing? Can items at lower levels simply be *identified* with suitable equivalence classes composed of items at higher levels?

One might think that there was a problem besetting the identification of objects with equivalence classes of (say) senses from the direction of Leibniz's Law. For how can a spatio-temporal object be identified with a set, which is not spatio-temporal? It seems to me, however, that Leibniz's Law does not present an insurmountable obstacle to the identification, because the Law does not need to be stated in the object-language form: If a = b and Fa then Fb. Instead, we can formulate it in metalinguistic terms as: If 'a' and 'b' co-refer, and if 'F' and 'G' co-refer, and if 'Fa' is true, then 'Gb' is true. This ought to permit an identification of spatio-

temporal (or any other) objects with suitable sets, since presumably, corresponding to any property of the original object (F), there will be a set-theoretic reconstruction of that property (G) which will be satisfied by the set-theoretic reconstruction of that object.

Although the objection to an identification of objects with suitable sets of senses or names based on Leibniz's Law seems to fail, there is an epistemological reason why we cannot countenance these identifications, though an identification of senses with suitable sets of names can go through. (I shall continue to take the middle column of the revised table as my example, though the argument is generalizable to all three columns.) Grasping a sense S is a matter of being acquainted with the object presented by S, call it 'O', in some particular way. Suppose now we identify O with a suitable equivalence class of senses, Σ . That means that being acquainted with O will be tantamount to being acquainted with Σ . Being acquainted with Σ will consist in knowing its membership condition (there cannot be de re acquaintance with Σ for a finite subject of thought, since it contains infinitely many members). That in turn will be tantamount to knowing that a given sense S_n is in Σ just in case it presents Σ . But here we have a vicious circularity, because there is no way into this equation for a subject of thought. To find out whether S_n presents Σ you first have to know what set Σ is, but to find that out you need to ascertain whether S_n is in Σ or not, and to find that out you need to ascertain whether S_n presents Σ .

Now one can construct a precisely parallel argument for the case of a purported identification of senses with suitable equivalence classes of names, but here I think it is possible to escape from the epistemic bind. The method I propose trades crucially on the fact that senses are not at the lowest level in the semantic hierarchy: that is why the tactic works in this case, but would not work to save an identification of objects with suitable sets composed of items higher up in the semantic table. Understanding a name is a matter of grasping its sense. Suppose now we identify that sense with a suitable equivalence class of names. Understanding a name will then be tantamount to being acquainted with the relevant set. But instead of saying that acquaintance with a suitable set of names requires knowledge of the membership condition of that set (which would take us into a vicious circle), we can exploit the fact that names present objects, which we are not identifying with sets of senses, and say that acquaintance with the relevant set of names is tantamount to acquaintance with the relevant object (in some particular way). There is a good sense, then, in which senses are linguistic – they can be identified with suitable sets of items of spoken and written language – but objects (and other entities at the level of reference) remain stubbornly distinct both from entities at the level of sense and from entities at the level of spoken and written language. Hence the neo-Fregean picture, which envisages a hitching-up ('incorporation' was McDowell's word) of the level of reference to that of sense, goes too far in the direction of idealism: a relation of determination is the best that is available.

The thesis that referents determine suitable equivalence classes of senses generates no clash with the traditional doctrine, which I have accepted, that sense determines reference but not vice versa. For the meaning of that doctrine is that *individual* senses determine *individual* referents, but not vice versa. The determination by referents of suitable sets of senses does indeed yield a *way* in which reference determines sense; but there is no clash with the traditional doctrine because the determination of sense by reference operates at a more general level than the reverse determination embodied in the traditional doctrine: individual referents determine not any particular sense, but *all* their corresponding senses (including all *possible* senses).

False propositions at the level of reference

Propositions figuring at the level of reference can of course be either true or false. The false ones will be what Russell, using Meinongian terminology, called 'false objectives' (1994): they include entities like that Charles I died in his bed (viewed extensionally). It was Russell's subsequent horror of false propositions in rebus - by 1910 he thought their existence 'almost incredible' (1994: 152) – which led him to abandon the theory of propositions set out in his Principles of Mathematics of 1903, and adopt the multiple relation theory of judgement which we find in his writings between 1910 and 1918. In spite of the notorious difficulties of his later approach, 42 which one might think constituted good evidence that the attempt to avoid positing 'false objectives' was a wrong turning, there has been a marked tendency among recent writers to follow Russell in his post-1910 aversion to 'false objectives'. Thomas Baldwin, for instance, objects that false propositions, conceived as occupying the level of reference, would 'need to have, so to speak, all the substance of actual states of affairs, but just to lack their actuality' (1991: 46), and Julian Dodd, commending Baldwin's remark, calls the positing of what he calls 'objective non-facts' a 'crass example of metaphysical extremism' (1995: 163). But let us keep our heads here. The sense in which false propositions at the level of reference can be said to have the substance of actual states of affairs is just this: they are composed of actual entities (centrally objects and properties). The sense in which false propositions *lack* the actuality of actual states of affairs is just this: while the objects and properties which compose false propositions are real enough, those objects do not, as it happens, fall under those properties.

If, as I have claimed (pp. 4–6), we are obliged by semantical considerations to modify the Fregean picture so as to house propositions at the level of reference as well as at the level of sense, we cannot avoid postulating extensional entities corresponding to those false propositions which obtain at the level of sense. For the argument to the referential status of some propositions was utterly neutral on the question of truth-value. Why

should it be thought that the sheer availability of false as well as true propositions obtaining at the level of sense creates difficulties for the project of colonizing the referential level with propositional entities corresponding to Fregean Thoughts? To the question whether false propositions at the level of reference are as real as true ones, the answer must be affirmative: after all, the constituents of false propositions at the level of reference are, as I have noted, just as real as the constituents of true propositions at the level of reference, for it is not possible to refer to objects and properties that are not there to be referred to. And these constituents must be unified in a false proposition as they are in a true one: for a false proposition is no less unified than a true one. 43 Hence there must be something propositional in form at the level of reference corresponding to false sentences and false Thoughts at the levels of spoken and written language and sense. False propositions at the level of reference differ from true ones at that level neither in point of unity nor in point of ontological status: the only difference is that their constituent objects and properties are being said (by the proposition in question) to be related in a way in which they are not related.

Resistance to the claim that false propositions are as real as true ones has its origin, I think, in the following worry. If the level of reference consists of false propositions as well as true ones, if, at that level, there are non-facts in just as good a sense as there are facts, how can we account for what is distinctive about truth, or factuality, and how can we justify thinking of truth, or factuality, as metaphysically privileged in the sense that it is (in some sense) better than falsehood? Saying that facts obtain, whereas non-facts do not, is saying no more than that some propositions, at the level of reference, are true, and others are not, and saying this much does not, so it might be held, either tell us what really distinguishes truth from falsehood, or why truth is peculiarly important to us. I think the charge that the picture I am offering tells us neither what truth is nor what is special about it should simply be accepted. But accepting the charge does nothing to undermine the picture, for we should seek satisfaction on these issues elsewhere. The picture is (so I claim) forced on us by semantical considerations, and it is a consequence of the picture that propositions at the level of reference may be false as well as true; but there is no obligation on us, merely in virtue of offering this picture, to address all puzzles that arise in connection with the distinction between truth and falsity.

Having said that, however, it might be advisable for me to indicate (albeit in a provisional and partial way) how I envisage responses to the above queries proceeding. What is distinctive of truth – what marks it off from falsehood – is just that the predicate 'is true' conforms to the disquotation schema, whereas the predicate 'is false' does not. What makes truth special is not merely that it has a certain normative character – that, as Russell put it in his critique of Meinong, there is 'an ultimate ethical proposition' to the effect that 'it is good to believe true propositions, and bad to believe

false ones' (1973: 76) – but also that there is a transcendental requirement on language users to give systematic doxastic preference to true propositions over false ones, both because it is only possible to learn a language if the learner is exposed to (salient) truths, ⁴⁴ and because, as Davidson has made familiar, it is only possible to interpret other speakers if the interpreter makes the assumption that they intend, by and large, to utter truths. ⁴⁵

But even if the reader is satisfied by these inchoate remarks, I do not suppose that all reservations one might feel about the semantical picture I am offering have been laid to rest. In particular, I expect that a qualm surfaced in the reader when I stated above that the constituent objects and properties of false propositions at the level of reference are *said* (by the proposition in question) to be related in a way in which they are not related. For, one might object, how can false propositions at the level of reference both be *worldly* entities – as they must be if they really do exist at the level of reference – and also *say* something? Of course the qualm, if it is felt, relates just as much to true propositions at the level of the reference as to false ones.

'The world's own language'

For it is tempting to object to the doctrine that the realm of reference contains propositions on the ground that it commits us to an intolerable transcendental realism. According to this objection, what is wrong with the doctrine is that it forces us to (in an image of McDowell's) 'picture objects as speaking to us in the world's own language'. 46 We might give substance to the objection as follows. Suppose that, following the early Wittgenstein, we conceive of the world as being everything that is the case. One way of putting Wittgenstein's idea would be to say that the world is (in the first instance) propositional, and is (in the first instance) composed specifically of true propositions.⁴⁷ Now in the context of the Fregean distinction between sense and reference it is natural to ask whether propositions are to be conceived as located in the realm of sense or in the realm of reference. Here we cannot, I have argued, be satisfied with a neo-Fregean position, according to which propositions, and so facts (which are just true propositions), are held to occupy exclusively the realm of sense. I have suggested that there are propositions, and facts, not merely in the realm of sense, but also in the realm of reference. The Wittgensteinian aphorism that the world is everything that is the case might then seem to present us with a choice: either we identify the world with the facts inhabiting the realm of sense, or we identify it with the facts inhabiting the realm of reference. And this apparent choice might then take on the appearance of an intolerable dilemma. For either way, it might be claimed, we are compelled to conceive of the world as composed of what are essentially linguistic items, namely true propositions, whether these are construed as senses on the first horn of the dilemma, or as referents on the second horn.

But we are now in a position to see that the dilemma is a false one. We do not need to choose between the options offered; and in fact we cannot ultimately do so, because selecting one option amounts to selecting both, so that the appearance of choice is illusory. If we identify the world with the facts inhabiting the realm of sense, we find ourselves – given that the realm of sense presents the realm of reference – having to recognize the corresponding entities in the realm of reference as in some good sense part of the world's furniture. If, on the other hand, we identify the world with the facts inhabiting the realm of reference, we find – given that entities at the level of reference systematically determine items at the level of sense collected under suitable equivalence relations - that our initial identification of the world with entities at the level of reference necessarily imports into our ontology appropriate items at the level of sense. The realms of sense and reference come together as a package: there is no recognizing the one without recognizing the other. Seeing this point gives us the materials we need to answer the charge that the semantical picture I have been defending commits us, absurdly, to picturing objects as 'speaking to us in the world's own language'.

We should accept the image, but reject the imputation of absurdity. It is no more absurd to say that objects speak to us (in their own language) than to say that actions speak louder than words or that someone's facial expression can speak volumes about her state of mind. In these latter cases, after all, we do not stop to ask in which language actions speak to us, or in which language the volumes that facial expressions speak are written. What saves the image of objects' speaking to us in the world's own language from absurdity is that it is not to be read in a transcendentally realistic way, as the objector was supposing, but in a transcendentally idealistic way. We can orient ourselves here by contrasting the semantical doctrine I am recommending with a correspondence theory of truth, as classically conceived.⁴⁸ According to that theory, the world is supposed to be composed of entities (facts) which are not in any sense linguistic, but which nevertheless correspond to things which are linguistic, namely propositions, or at least to some of them (the true ones). The incoherence of this theory becomes manifest when we try to specify in language (we have no other way of doing it) what the entities on the world end of the correspondence relation are like. Of course we have to make them proposition-like – otherwise there could be no question of correspondence with genuine propositions – and we are thus forced into the inconcinnity of positing a reality which is both proposition-like and not in any sense linguistic. 49 This theory is transcendentally realistic: reality is supposed not to be constituted in any sense by our thinking, but nevertheless magically fitted up to match that thinking in relevant ways.

The picture I am offering, however, is not transcendentally realistic: for I deny that reality is not in any sense linguistic. Reality *is* linguistic in just the sense that it is essentially expressible in spoken and written language

(though not necessarily expressed). The position I recommend is transcendentally idealistic in the sense that the existence of the world is conceived as a necessary condition of the meaningfulness of spoken and written language. More precisely, the existence of propositions at the level of reference is a necessary condition of the meaningfulness of spoken and written language. Not only is it a necessary condition: it is also a sufficient condition. For, as we have seen, entities at the level of reference determine suitable sets of items at the level of sense, and those sets can in turn actually be identified with suitable sets of (meaningful) spoken and written linguistic items. It is in that sense that the propositions in question are linguistic; but they are also non-linguistic in the sense that they are entities at the level of reference, not at the level of sense (let alone at the level of spoken and written language itself), and, as we have seen, there is no prospect of a reduction of the level of reference to, or an 'incorporation' of it into, the levels of sense or spoken and written language.

The reader will have noticed that in the previous paragraph I have moved from speaking narrowly of facts (true propositions) to speaking broadly of propositions (false as well as true) at the level of reference. That coheres with what I was saying about the level of reference before I introduced the Wittgensteinian aphorism at the beginning of this section. For to follow Wittgenstein in restricting the world to everything that is the case, that is to true propositions, is to tell only half the story. The whole truth is that the world is everything that is the case, and also everything that is not the case. ⁵⁰

Notes

- 1 One difference would presumably be the following. Moore thinks that '[a] concept is not in any intelligible sense an "adjective", as if there were something substantive, more ultimate than it. For we must, if we are to be consistent, describe what appears to be most substantive as no more than a collection of such supposed adjectives: and thus, in the end, the concept turns out to be the only substantive or subject, and no other concept either more or less an adjective than any other' (1993: 18). Russell, on the other hand, argues that among terms we must distinguish between what he calls 'things' and 'concepts' (1903: §48). Of the latter he writes that 'terms which are concepts differ from those which are not, not in respect of self-subsistence, but in virtue of the fact that, in certain true or false propositions, they occur in a manner which is different in an indefinable way from the manner in which subjects or terms of relations occur' (§49). His exposition of the distinction makes it clear that he has in mind a distinction parallel to Frege's between the saturated *Gegenstand* and the unsaturated *Begriff* (cf. §480).
- 2 See Pinborg 1967.
- 3 For an elementary summary of a common position, see Neale 1995: §2. (Neale aims to characterize only true Russellian propositions 'facts' but the account is a general one.) Cf. also the semantic theory presented in Donaho 1998: §7. Note that (i) 'properties' in my usage includes relations; (ii) I make use of the traditional object/property dichotomy without prejudice to the question whether

- properties are themselves species of objects (a question I answer in the affirmative: but I cannot argue that here).
- 4 It will not be necessary to adjudicate here between properties and concepts as candidates for the referents of predicates: see on this question Wiggins 1984 and Gaskin 1995.
- 5 I will give my reasons for rejecting correspondence as the appropriate way to characterize the relation between facts and true propositions in due course.
- 6 See here Dodd and Hornsby 1992.
- 7 For an objection to McDowell along these lines see Dodd 1995: §5. The objection is not to be fobbed off by merely insisting that thinkables cannot be equated with episodes of thinking, as Hornsby supposes (1997).
- 8 I take the following to reproduce the gist of the answer McDowell himself wants to give to the question I have posed: see 1994 at pp. 179f. together with 104–7.
- 9 As McDowell confirms in the sentence immediately following the passage I have quoted.
- 10 Cf. Evans 1982: 62.
- 11 Cf. Kripke 1988.
- 12 Modal contexts provide a further illustration of this point: see Forbes 1989, esp. Ch. 5. Forbes conceives of the referents of declarative sentences as what he calls 'states of affairs', which are in all essentials identical to what I (in common with others) am characterizing as (true) Russellian propositions. Forbes argues, however, that this latter characterization is a misnomer, since things in the world cannot literally be *propositions*: I reject this claim, as well as a restriction of what is in the world to just the true Russellian propositions, below (pp. 16–20).
- 13 For example in a famous letter to Jourdain written in 1914; see Frege 1976: 128.
- 14 See here McDowell 1977: §3. For a fuller discussion of the topic of this paragraph, see my 1997a. In fact the relative thinness of semantically operative senses seems to me to affect expressions of other linguistic types than proper names, in particular predicates (concept-expressions). But that is a topic which need not be pursued further here.
- 15 See Bealer 1998: 2f., 9f.
- 16 For example, Salmon (1986) introduces what he calls 'guises'.
- 17 See here again my 1997a (§4). Intermediate granularities can readily be subjected to a set-theoretic reconstruction along the lines to be proposed (next section below): but I shall not give details in this paper (there are some remarks on the matter in my 1997a).
- 18 See, e.g. his letter to Russell of 28 December 1902 (1976: 234–7); Dummett 1981: 182.
- 19 See e.g. 1967: 60, cited by Levine, Ch. 3 of this volume, pp. 98–106. The definition of reference obviously invites the large question: what sorts and strengths of epistemic connection between understander and referent are required to constitute a genuine relation of acquaintance? I presuppose a fairly strong connection (requiring, for instance, that if truth-values are to be the referents of sentences then an understander must know whether a sentence is true or false in order to count as understanding it). I also presuppose throughout a realist epistemology, according to which objects of acquaintance include ordinary spatio-temporal objects (and are not restricted to, say, sense data and/or Cartesian selves). But I can do no more here than acknowledge the need for an epistemological underpinning to the semantical approach I adopt.
- 20 Note that the sufficiency condition needs to be glossed with the requirement that the understander think of the relevant object *as* the meaning of the relevant item of language.
- 21 Presumably we should say: object or objects.

- 22 Including those linguistic components of sentences which are broadly speaking structural, such as the logical constants (which refer to functions).
- 23 See here Evans 1982: Ch. 1 and *passim*; Davies 1981: esp. Ch. 5 (with relevant further bibliography). How Fregean the resulting position is may be disputed: Bell 1990.
- 24 The *referents*, not the *senses*: two distinct concept-words may present the same Carnapian intension in different ways (e.g. 'groundhog' and 'woodchuck'). The sentences 'Groundhogs are *F*' and 'Woodchucks are *F*' express the same propositions at the level of reference (are correlated with the same Carnapian intension), but do so in different ways (express different Fregean Thoughts); the sentences 'There are witches' and 'There are wizards' express different propositions at the level of reference, for they are composed of items with different referents (Carnapian intensions): though they are materially equivalent in the actual world, they are not so in other possible worlds.
- 25 Cf. Lewis 1983: §III. Lewis employs a more general notion of Carnapian intension than I do, as comprising (in the case of concept-words) functions from indices to sets, where indices are composed of several co-ordinates, including a possible-world co-ordinate and a number of contextual co-ordinates, such as a time co-ordinate, a place co-ordinate and a speaker co-ordinate. The reader should be aware that my account of Carnapian intensions is a considerably simplified one; but it is adequate for my purpose.
- 26 See here again Lewis 1983: §V. Cf. Donaho 1998: 49.
- 27 Bealer, in common with other writers in this field, identifies properties with senses of predicates (1998: 16). But that ignores the fact that, as Frege saw clearly, we need a sense–reference distinction for concept-words as much as we do for proper names. The property of being a groundhog is the same property as the property of being a woodchuck; but 'groundhog' and 'woodchuck' differ in sense.
- 28 What about the concept-word 'necessary'? Bealer (1998: 5f.) shows that, unless we invoke type theory, the property associated with this concept-word will, on the kind of analysis I propose, be a member of itself. It is not clear to me what Bealer takes the objection to a type-theoretic treatment of 'necessary' (and other modal words) to be (cf. his n. 7). The standard objection to a Russellian type theory, i.e. one which has as its aim the establishment of criteria of meaningfulness in the construction of sentences (so the objection applies also, for example, to the system developed by Carnap in the Aufbau, in so far as that purports to adapt and extend Russellian type theory: see §30, §§179–80), is that the theory cannot itself be characterized without breaching the very type restrictions it is intended to establish. But this objection obviously does not apply in the present context, since the type theory here envisaged for modal terms is not being deployed to lay down criteria of meaningfulness, but of truth. Arguably, a possible-worlds approach to the semantics of modality is committed to embracing a type theory anyway: for the relations of comparative similarity among possible worlds are necessary (cf. Lewis 1986: 177), and hence the structure of possible worlds, which models relations of comparative similarity, is a necessary one (cf. Lewis 1986: 126). But this necessity is obviously of a higher level, in some suitable type theory, than the necessity which is analysed as truth at all accessible possible worlds within the structure: see further my 1998: 192–4.
- 29 Bealer finds it 'implausible' (1998: 5) that 'when I believe (doubt, justify, assert) some proposition' what I believe (doubt, justify, assert) is a function. I cannot make anything of this intuition (which I do not share) unless it is firmed up into an argument that the identification actually gives wrong results somewhere. Obviously the proposed set-theoretic reconstructions introduce arbitrariness into

- the way we specify relevant functions (e.g. a function from world/time pairs is technically distinct from a function from time/world pairs, but it is indifferent which we select). But the arbitrariness is harmless (*pace* Bealer 1998: 6f.): it is no more theoretically problematic than (to take an example of Davidson's) the arbitrariness of measuring temperature in Fahrenheit rather than in centigrade.
- 30 I say that the constitution of Russellian propositions is, in the general case, 'given by' the corresponding phrase markers in order to differentiate my position from Lewis's, as set out in his 1983: §V. Here Lewis simply *identifies* (what he calls) meanings with 'semantically interpreted phrase markers minus their terminal nodes', i.e. 'finite ordered trees having at each node a category and an appropriate intension'. For me these phrase markers are linguistic representations of meanings (Russellian propositions) and not those meanings themselves, which are entities in the world, not pieces of spoken or written language.
- 31 Cf. Black 1968: 229f.; Geach 1972: 189–93. A similar objection was also raised against the medieval theory, propounded by Adam Wodeham and Gregory of Rimini, that the referents of declarative sentences are *complexe significabilia* specified by an appropriate noun phrase (e.g. the referent of 'man is an animal' is *that man is an animal*): see here Ashworth 1978: 98f.
- 32 Cf. Carnap 1998: §159.
- 33 With the proviso noted above (n. 20).
- 34 According to a well-known argument, deriving from Church and Gödel, and reiterated by Quine and Davidson, the proponent of the thesis that sentences have referents is committed to the conclusion that all true sentences refer to the same thing ('the Great Fact', if the referents of sentences are taken to be propositions). In some versions of the argument (e.g. Davidson's, in his 1984 and 1990), there is an assumption to the effect that logically equivalent sentences can be intersubstituted within contexts such as 'the proposition that p is F'. That renders the argument a petitio principii, for the assumption is tantamount to the thesis (explicit in Davidson: see e.g. 1990: 303) that logically equivalent sentences are co-referential, which anyone who defends the referential status of Russellian propositions along the lines I favour will obviously deny (see here Yourgrau 1987). Neale (1995) shows that the above assumption is not present in Gödel's version of the argument, but that that version, as well as the more familiar Davidsonian version, can be resisted if one follows Russell in distinguishing the semantics of definite descriptions from those of singular terms (genuine proper names, demonstrative expressions, certain indexicals). It is part of the picture I am offering that the relevant semantical accounts will indeed be distinct, for whereas singular terms refer to individuals, definite descriptions will refer to complex conceptual entities constructed from the (conceptual) referents of their component words (for an outline of a semantic theory for definite descriptions which secures the required divergence between their semantics and those of singular terms, see Donaho 1998: §7); hence, as I have said (pp. 6-9), for definite descriptions there is a distinction between reference and satisfaction, whereas for genuine proper names there is no such distinction.
- 35 Summa Logicae (1974): 1. 33, 1. 64 and passim. We have to do here with the first sense of signification defined by Ockham at Summa Logicae 1. 33. See further on this my 2001.
- 36 Donaho remarks (1998: 44) that '[a]dvocates of the idea that sentences are representations [i.e. have reference] typically reject the view that the semantic value [i.e. referent] of a predicate is its extension, but often do so without giving explicit argument'. Here is the argument: see further my 1997b.
- 37 It is true that the circularity both obtains and is not vicious in the case of analytic truths (falsehoods), where it is a condition of understanding such statements that

one know that they are true (false). But in the case of synthetic statements, such as our sample 'a is green', any such circularity certainly is vicious.

- 38 *De Puritate Artis Logicae* (1955): 9, 7–16.
- 39 As Ockham does in defining the second sense of signification at *Summa Logicae* 1. 33. See here Spade (1996): 148f.
- 40 Perhaps it will help if I map out the relations between the various notions in play. Taking → to represent, as usual, 'suffices for' or 'has as a necessary condition', we have the following: (Understanding the concept-word 'green' = knowing the membership condition of the set of green things = being able to settle, in favourable conditions, which objects are green) → Acquaintance with the set of green things ← Having *de re* acquaintance with all the green things. From the map it is immediately clear, given that neither implication can be strengthened to a biconditional, that being acquainted with the set of green things is not sufficient, and that having *de re* acquaintance with all the green things is not necessary, for understanding the concept-word 'green'.
- 41 A metalinguistic version of Leibniz's Law brings with it a metalinguistic account of the identity relation. This has been attacked on the grounds that it (a) does not yield knowledge of the world, and (b) is viciously regressive: see Wiggins 1976 and Ramachandran 1994. These objections do indeed hit a metalinguistic account of identity when this is stated as: a = b just if the referent of 'a' = the referent of 'b'. But they do not undermine the following metalinguistic analysis of identity: a = b just if 'a' and 'b' both refer to a (and both refer to b). One could not know the truth of the condition without actually being acquainted with a (that is, with b) and the account is not viciously regressive.
- 42 See Candlish 1996 and my 1997c.
- 43 On the question what constitutes this unity, see my 1995 (a provisional attempt at an answer, which I hope to improve on in due course).
- 44 And the attempt to expose the learner to salient falsehoods would be self-defeating: Wittgenstein 1922: §4.062.
- 45 See Davidson 1984: passim; McDowell 1976: §1; Hornsby 1997: 12–14.
- 46 McDowell 1998: 470.
- 47 'In the first instance', because it need be no part of this position to deny that there are objects and properties in the world: but they get into the world by virtue of their figuring in (true) propositions. I accept the restriction to true propositions as a *pro tempore* convenience; but I shall relax it at the end.
- 48 For a recent statement of the view I am about to attack, see Wright (1999), who argues that 'there is no alternative but to think of the truth of a proposition as conferred upon it, in the general case, by its relations [sc. of correspondence] to non-propositional reality' (223). He writes further that, in the general case, propositions are 'made true when they are true by, *inter alia*, non-propositional matters' (224). His definition of the correspondence theory of truth is: 'Correspondence theory holds that truth is a relational characteristic whose terms are respectively propositions . . . and *non-propositional items* facts, or states of affairs in an independent world' (206).
- 49 Of the various positions on truth surveyed by Wright (1999), the one I am committed to is the one he calls intrinsicism (of which Wright remarks 'I do not know that anyone has ever seriously proposed an intrinsicist conception of truth quite generally': 209 n. 8). Intrinsicism is the position that truth is an intrinsic i.e. non-relational property of propositions. Wright concedes that intrinsicism may well be right about necessary truths, but contends that it cannot handle contingent truths: 'For the truth-value of any contingent proposition must covary with hypothetical changes in the characteristics of things it concerns so that a hypothetical change, for instance, in the location of my coffee cup may

entail an alteration in the truth-value of the proposition that there is no coffee cup on my desk, even though that proposition and the particular coffee cup in question are quite distinct existences' (208). The example is rather cunningly chosen, for Wright's coffee cup and the proposition that there is no coffee cup on his desk are indeed distinct existences. At least they are distinct existences in the only intelligible sense that can be given to that expression, namely that the sentence 'That coffee cup exists' (here demonstrating the cup in question) neither entails nor is entailed by the *sentence* 'The proposition that there is no coffee cup on Wright's desk exists' - for of course there can be no question of spatio-temporal objects like cups enjoying logical relations, just as such: logical relations obtain between sentences (not even propositions: see my 1997a: §6) – and clearly the former sentence might be true while the latter was not true (if the embedded proposition did not exist, because, say, Wright's desk did not exist, in which case the sentence as a whole would itself express no proposition), and the latter sentence might be true while the former sentence was not true (because, in the absence of any relevant cup, it would express no proposition: see on both these cases McDowell 1981). But as soon as we have registered that point, it becomes apparent that Wright's general contention is unstable. For that coffee cup (here I demonstrate a particular cup in my cognitive vicinity) is not a distinct existence from, let us say, the proposition that that cup is on some desk or other: whether that proposition is true or false, the sentence 'That coffee cup exists' both entails and is entailed by the sentence 'The proposition that that cup is on some desk or other exists'. For if the former sentence is true, the relevant proposition does indeed exist (whether it is true or false), and so the latter sentence, which asserts the existence of the proposition, is true; and if the latter sentence is true, so is the former. What this suggests is that the intrinsicist would do well to develop his case, and not be put off by Wright's apparent counterexample. Obviously what is required (I cannot do more here than point to the general shape of what I take to be the most plausible line of development) is a distinction between basic and non-basic propositions. Simple singular propositions will count as basic, whereas both general and complex propositions which, when true, are true in virtue of the truth of relevant simple singular propositions, will count as non-basic. (The dichotomy between simple singular propositions on the one hand, and general or complex propositions on the other, is meant to be exclusive but not necessarily exhaustive.) The intrinsicist will then contend that his account applies to basic propositions (contingent as well as necessary): these are, when true, not true in virtue of anything at all. (The truth of non-basic propositions will indeed be a relational matter, but the relevant relations will be to basic propositions, not to anything non-propositional in the world.) Any candidate for something in the world which could – to follow the correspondence theorist's rhetoric – make a basic proposition true will turn out to be something which, when specified adequately, is identical with the proposition in question.

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References

- Ashworth, E. J. (1978) 'Theories of the Proposition: Some Early Sixteenth-Century Discussions', Franciscan Studies 38: 81-121.
- Baldwin, T. (1991) 'The Identity Theory of Truth', Mind 100: 35-52.
- Bealer, G. (1998) 'Propositions', Mind 107: 1-32.
- Bell, D. (1990) 'How "Russellian" was Frege?', Mind 99: 267-77.
- Black, M. (1968) 'Frege on Functions', in E. D. Klemke (ed.) Essays on Frege. Chicago/London: University of Illinois Press: 223-48.
- Burleigh, W. (1955) De Puritate Artis Logicae, ed. Ph. Boehner, New York: St Bonaventura, Franciscan Institute.
- Candlish, S. (1996) 'The Unity of the Proposition and Russell's Theories of Judgement', in R. Monk and A. Palmer (eds) Bertrand Russell and the Origins of Analytical Philosophy, Bristol: Thoemmes Press: 103–33.
- Carnap, R. (1998) Der Logische Aufbau der Welt, Hamburg: Felix Meiner.
- Davidson, D. (1984) Inquiries into Truth and Interpretation, Oxford: Clarendon
- (1990) 'The Structure and Content of Truth', Journal of Philosophy 87: 279-328.
- Davies, M. (1981) Meaning, Quantification, Necessity, London: Routledge.
- Dodd, J. (1995) 'McDowell and Identity Theories of Truth', Analysis 55: 160-5.
- Dodd, J. and Hornsby, J. (1992) 'The Identity Theory of Truth: Reply to Baldwin', Mind 101: 319–22.
- Donaho, S. (1998) 'Are Declarative Sentences Representational?', Mind 107: 33–58.
- Dummett, M. (1981) Frege: Philosophy of Language, 2nd edn, London: Duckworth.
- Evans, G. (1982) The Varieties of Reference, Oxford: Clarendon Press.
- Forbes, G. (1989) Languages of Possibility, Oxford: Blackwell.
- Frege, G. (1976) Wissenschaftlicher Briefwechsel, ed. G. Gabriel et al., Hamburg: Felix Meiner.
- Gaskin, R. (1995) 'Bradley's Regress, the Copula and the Unity of the Proposition', Philosophical Quarterly 45: 161-80.
- ——— (1997a) 'Fregean Sense and Russellian Propositions', *Philosophical Studies* 86: 131-54.
- (1997b) 'Überlegungen zur Identitätstheorie der Prädikation', Wissenschaft und Weisheit 60: 87-103.
- (1997c) 'Russell and Richard Brinkley on the Unity of the Proposition', History and Philosophy of Logic 18: 139-50.
- (1998) 'Fatalism, Middle Knowledge and Comparative Similarity of Worlds', Religious Studies 34: 189–203.
- (2001) 'Ockham's Mental Language, Connotation, and the Inherence Regress', forthcoming in D. Perler (ed.) Ancient and Medieval Theories of Intentionality, Leiden: Brill.
- Geach, P. (1972) Logic Matters, Oxford: Blackwell.
- Hornsby, J. (1997) 'Truth: The Identity Theory', Proceedings of the Aristotelian Society 97: 1–24.
- Kripke, S. (1988) 'A Puzzle about Belief', in S. Salmon and S. Soames (eds) Propositions and Attitudes, Oxford: Oxford University Press: 102-48.
- Lewis, D. (1983) 'General Semantics', in his Philosophical Papers vol. 1, Oxford: Oxford University Press: 189–232.

- (1986) On the Plurality of Worlds, Oxford: Blackwell.
- McDowell, J. (1976) 'Truth-Conditions, Bivalence and Verificationism', in G. Evans and J. McDowell (eds) *Truth and Meaning*, Oxford: Clarendon Press: 42–66.
- ——— (1977) 'On the Sense and Reference of a Proper Name', Mind 86: 159–85.
- (1981) 'Truth-Value Gaps', in J. Los and H. Pfeiffer (eds) *Logic, Methodology* and *Philosophy of Science* 6, Amsterdam: North Holland: 299–313.
- —— (1994) Mind and World, Cambridge, Mass.: Harvard University Press.
- —— (1998) 'Having the World in View: Sellars, Kant, and Intentionality', *Journal of Philosophy* 95: 431–91.
- Moore, G. (1899) 'The Nature of Judgment', *Mind* 8: 176–93, reprinted in T. Baldwin (ed.) *G. E. Moore: Selected Writings*, London: Routledge, 1993: 1–19. (Page references are to the reprint.)
- Neale, S. (1995) 'The Philosophical Significance of Gödel's Slingshot', *Mind* 104: 761–825.
- Ockham, W. (1974) Summa Logicae, ed. P. Boehner et al., New York: St. Bonaventura, Franciscan Institute.
- Pinborg, J. (1967) 'Walter Burleigh on the Meaning of Propositions', *Classica et Mediaevalia* 28: 394–404.
- Ramachandran, M. (1994) 'Frege's Objection to the Metalinguistic View', *European Review of Philosophy* 1: 133–41.
- Rumfitt, I. (1996) 'Sentences, Names and Semantic Values', *Philosophical Quarterly* 46: 66–72.
- Russell, B. (1903) *The Principles of Mathematics*, Cambridge: Cambridge University Press.
- ——— (1956) Logic and Knowledge, ed. R. C. Marsh, London: Allen & Unwin.
- ——— (1967) The Problems of Philosophy, Oxford: Oxford University Press.
- ——— (1973) Essays in Analysis, ed. D. Lackey, London: Allen & Unwin.
- ——— (1994) Philosophical Essays, London: Routledge.
- Salmon, N. (1986) Frege's Puzzle, Cambridge, Mass.: MIT Press.
- Spade, P. (1996) Thoughts, Words and Things: An Introduction to Late Medieval Logic and Semantic Theory, Version 1.0, 1 July 1996, http://www.phil.indiana.edu/~spade/
- Wiggins, D. (1976) 'Frege's Problem of the Morning Star and the Evening Star', in M. Schirn (ed.) *Studien zu Frege* vol. 2, Stuttgart: Frommann-Holzboog: 221–55.
- ——— (1984) 'The Sense and Reference of Predicates: a Running Repair to Frege's Doctrine and a Plea for the Copula', in C. Wright (ed.) *Frege: Tradition and Influence*, Oxford: Blackwell: 126–43.
- Wittgenstein, L. (1922) *Tractatus Logico-Philosophicus*, London: Routledge & Kegan Paul.
- Wright, C. (1999) 'Truth: a Traditional Debate Reviewed', in S. Blackburn and K. Simmons (eds) *Truth*, Oxford: Oxford University Press: 203–38.
- Yourgrau, P. (1987) 'Frege on Truth and Reference', *Notre Dame Journal of Formal Logic* 28: 132–8.

1 Frege and the grammar of truth¹

Richard Mendelsohn

Gottlob Frege (1848–1925) is celebrated for his distinction between the sense (Sinn) and reference (Bedeutung)² of an expression. The distinction is readily understood. The reference of the name 'Plato' is the philosopher who lived more than two thousand years ago in ancient Greece. The sense of 'Plato', on the other hand, is its meaning: what a speaker/hearer understands by the word, which enables him to identify what he is talking about and to use the word intelligently. Why is Frege celebrated for this distinction? After all, just a generation or two before, Mill (1843) expounded his distinction between the connotation and denotation of a name. Kindred distinctions can be found earlier in the Port-Royal Logic, in medieval theories of suppositio, and earlier still in Stoic accounts of the meaning of names. A philosophical lesson so valuable is, of course, worth repeating, for even the greatest of philosophers nod on this point. In recent times, for example, Meinong (1904), Russell (1903a), and Wittgenstein (1922) have all mistakenly identified the meaning of a name with the object for which it stands. But what makes Frege's achievement particularly noteworthy are the compositionality principles – one for reference and the other for sense - that are essential to his theory. These represent a genuine advance. Once these principles had been clearly understood by him, Frege found that the proposition expressed by a declarative sentence is not its reference (as he had once thought) but its sense. The reference of the sentence turns out to be its truth-value. Frege's investigations into logical/mathematical grammar vielded a genuine philosophical discovery, the articulation of which continues to generate deep philosophical insights. In this essay, I shall explain Frege's result.

The puzzle about identity

Frege (1892a) opens with the famous puzzle about identity. Suppose that $\alpha = \beta$ expresses that a relation holds between the objects referred to by α and β . In that case, Frege argues, the same relation is said to hold between the same objects however they are referred to, so $\alpha = \alpha$ and $\alpha = \beta$ cannot differ in cognitive value. But identities like this *do* differ in cognitive value. Here is Frege's example:

(1) The evening star = the evening star

is analytic and a priori, but

(2) The evening star = the morning star

expresses a significant astronomical discovery, a truth that is synthetic and a posteriori. How is this puzzle to be resolved?

The argument turns on the assumption that if a sentence $S\alpha$ expresses that the object which α stands for has a certain property, then the term chosen to refer to that object is irrelevant to the cognitive value of the sentence. Let $r(\)$ abbreviate the reference of (), and let $S\alpha/\beta$ result from $S\alpha$ by replacing α at one or more of its occurrences in $S\alpha$ by β . We can now express the assumption as the following substitution principle:

- (3) If $r(\alpha) = r(\beta)$, then $S\alpha$ and $S\alpha/\beta$ have the same cognitive value.
- (2) is true, so the two terms refer to the same object. We substitute 'the evening star' for 'the morning star' in (2) to get (1), and by (3), the two sentences must have the same cognitive value.

Frege (1879) was apparently persuaded by this argument, and concluded that identity did not relate objects. His 1879 view was that sentences like (1) and (2) expressed an equivalence relation that holds between the names 'the evening star' and 'the morning star', rather than the numerical identity of the objects these names ordinarily stand for. He had been persuaded by the argument because he was, in modern parlance, a direct reference theorist. The objects themselves – not the ways in which the objects are conceived or picked out – enter into the proposition expressed by $\alpha = \beta$, so that $\alpha = \beta$, if true, must express the very same proposition as $\alpha = \alpha$. But, as we have just seen, identities like this do differ in cognitive value. Since Frege (1879) was committed to (3), he had to reject the notion that identity relates objects.³

But Frege (1892a) was no longer a direct reference theorist. In the intervening years, Frege came to realize that it is the truth-value of a sentence that remains invariant under substitution of co-referential singular terms. Cognitive value remains invariant under substitution of singular terms that have the same sense. (3) confusedly connected the reference of the parts with the sense of the whole. Frege's solution (1892a) was to reject (3), and to split it into two substitution principles, one for reference,⁴

(4) If $r(\alpha) = r(\beta)$, then $S\alpha$ and $S\alpha/\beta$ have the same truth-value,

and one for sense,

(5) If $e(\alpha) = e(\beta)$, then $S\alpha$ and $S\alpha/\beta$ have the same cognitive value

(where e() abbreviates the sense expressed by ()). In this essay, we will be dealing only with the development of the first of these substitution principles, (4). Why did Frege reject (3) in favour of (4)?

The substitution principle

Underlying (4) is a fundamental logical law: if x is identical with y, then any property of x is equally a property of y and conversely. This law is known traditionally as *The Indiscernibility of Identicals*, and in more modern times as *Leibniz's Law*. It is expressed in first-order logic as follows:

(6)
$$(\forall x)(\forall y) (x = y \supset (\varphi(x) \equiv \varphi(y)))$$

Actually, (4) and (6) are both commonly referred to in the literature as *Leibniz's Law*. But this practice obscures the fact that (4) and (6) are quite distinct principles.⁵ (6) cannot plausibly be denied. For, to suppose that x is one and the same thing as y, and yet that x has a property y lacks (or conversely), is to suppose that one and the same thing both has and lacks the given property. (6) is as fundamental as *The Law of Non-contradiction*, $(\forall x) \neg (\varphi(x) \land \neg \varphi(x))$. (4), on the other hand, is not so firmly grounded.

We continue Frege's example. Contrast the following two statements:

- (7) It is known a priori that the evening star = the evening star;
- (8) It is known a priori that the evening star = the morning star.
- (7) is clearly true; not so (8). The difference in truth-value between (7) and (8) just reflects the fact that (1) and (2) differ in cognitive value. Frege traces the difference in cognitive value between (1) and (2) to the difference in the way in which 'the evening star' and 'the morning star' pick out the celestial body, i.e. to the difference in their customary sense. To be sure, on Frege's view, if a sentence contains a name, then the sentence is about what the name stands for, but and this is a big 'but' the reference of a name is context-sensitive. When we speak about what is known, we speak about a thought or proposition. So, on Frege's view, the reference of the words in the subordinate sentence in (7) (and also in (8)) systematically shifts from their *customary* reference to their *customary* sense. In (2), 'the morning star' stands for the celestial body: that is what (2) is about. In (8), however, given that it occurs inside a 'that'-clause, 'the morning star' shifts its reference to its customary sense: that is what (8) is about.

A sentence containing a singular term must be about that which the singular term stands for, either ascribing a property to it or expressing that it is one of the relata in some *n*-ary relation. Now, as Quine (1953: 140)

reminds us, 'whatever can be affirmed about [an] object remains true when we refer to the object by any other name'. But the name is irrelevant if the sentence is genuinely *about* that which the term stands for. So, when we analyse (8) by splitting it into predicate and singular term like this,

(9) It is known a priori that the evening star = _____ the morning star,

we cannot suppose we are speaking about the celestial body, because substituting other names for the same celestial body fails to preserve truth-value. Substitutability *salva veritate* is our test for aboutness. Where $r(\alpha)$ is now understood to be the reference of the expression α *in the context* $S\alpha$, we have our parallel to (6):⁶

(10) If $S\alpha$ is about $r(\alpha)$, then if $r(\alpha) = r(\beta)$, then $S\alpha$ and $S\alpha/\beta$ have the same truth-value.

Formal mode and material mode

Leibniz's Law is a fundamental logical law governing identity and, as we have just seen, admits of no counterexamples. If someone purports to have a case where x has a property y lacks, it is natural to conclude that x is not identical with y. The literature is filled with examples of this type of argumentation for the existence of peculiarly philosophical entities. We cite here two.

- (I) A penny appears to be circular when viewed from one perspective, but it does not appear to be circular when viewed from another perspective. By (6), it cannot be that the same thing was viewed each time, for that which was viewed the first time appeared to be circular, while that which was viewed the second time did not appear to be circular. So, on at least one of these two occasions, that which was viewed was not identical with the penny. This argument is often invoked by Sensedatum theorists.
- (II) John utters a sentence and what he says is true, while Tom utters the very same sentence and what he says is not true. Since that which John said is true and that which Tom said is not true, then by (6), it cannot be that that which John said is the same thing as that which Tom said. Since each uttered the very same sentence, then on at least one of these two occasions, that which was said was not the sentence, and so on at least one of these two occasions, it was something other than the sentence that was said either to be true or to be false. This argument is commonly invoked by Propositionalists.

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Note that in each of the above arguments it was assumed that the property x was said to possess was the same property as the property y was said to lack. However, all (6) establishes is a certain connection between objects and properties so that in (I), for example, it cannot be both that the same thing was viewed each time and also that the property the thing viewed the first time was said to possess was the same property as the property said to be lacked by the thing viewed the second time. Similarly for (II): it cannot be both that John and Tom said the same thing and also that what John said was true and what Tom said was not true. (6) is indifferent as to which alternative is rejected. It requires that one (at least) be rejected, but the justification for rejecting one rather than the other must be sought elsewhere. So, Naïve Realists might deal with the phenomenon described in (I) and remain consistent with (6) by urging that the same thing was viewed each time, namely, the penny, but that the property said to be possessed by the penny when viewed the first time was not the same property as the property said to be lacked by the penny when viewed the second time. And they might go on to claim that the property ascribed to the penny the first time was not appearing circular but rather appearing circular from perspective p_1 , and the property the penny was said to lack the second time was not appearing circular but appearing circular from perspective p_2 . Similarly, Nominalists might respond to the case described in (II) by urging that John and Tom did say the same thing, namely the sentence, but that truth must be relativized to a language, a time, a speaker, and a context.

The substitution principle captured in (10) is the formal-mode analogue to (6). Singular terms stand for objects, and predicates stand for properties, so if $S\alpha$ expresses that $r(\alpha)$ has a given property, and if $r(\alpha) = r(\beta)$, then $S\alpha/\beta$ expresses that $r(\beta)$, i.e. $r(\alpha)$, has the given property. Now, just as (6) lays down a connection between objects and properties which grounds our talk of same object and same property, so (10) is intended to lay down a connection between singular terms and predicates which grounds our talk of same singular term and same predicate. Purported counterexamples to (10) would then be regarded as exhibiting ambiguity, as in the evening star/morning star case discussed earlier. Moreover, the indifference of (6) to the competing Sense-datum and Naïve Realist accounts of the phenomenon described in (I) is reproduced by (10) at the formal-mode level. For consider the two sentences

(11) That which is viewed from perspective p_1 appears circular,

and

(12) That which is viewed from perspective p_2 appears circular.

As the case was presented in (I), (11) was true and (12) was false. Now,

Sense-datum theorists hold that (11) and (12) ascribe the same property to different objects. At the formal-mode level they might be characterized as splitting (11) into predicate and singular term as follows:

(13) _____ appears circular that which is viewed from perspective p_1

so that (12) would be the result of replacing the singular term 'that which is viewed from perspective p_1 ' in (11) by the singular term 'that which is viewed from perspective p_2 '. And since (11) is true and (12) is false, they conclude, by (10), that

(14) That which is viewed from perspective $p_1 \neq$ that which is viewed from perspective p_2 .

Naïve Realists, on the other hand, hold that the same thing was viewed each time, namely, the penny, and so, to remain consistent with (6), they hold that the property ascribed to the penny in (11) is not the same property as that ascribed to the penny in (12). Therefore, at the formal-mode level they might be characterized as splitting (11) into predicate and singular term as follows:

(15) _____ from perspective p_1 appears circular that which is viewed

so that (12) is not related to (11) as $S\alpha/\beta$ to $S\alpha$. The Sense-datum theorist takes (11) and (12) to contain the same predicate but different singular terms, whereas the Naïve Realist takes (11) and (12) to contain the same singular term but different predicates.

The picture we get, then, is that (10) is a device for grammatically parsing a sentence into singular term and predicate so that the structure of the sentence mirrors the structure of the world – or, more accurately, given the indeterminacy just exhibited, so that it mirrors a coherent structuring of the world.

Functions

But let us get back to Frege, who did not speak of properties and predicates, but rather of functions and function expressions. For any non-empty sets, S and S' (not necessarily distinct), a function f from S to S' correlates elements of S (the domain of f) with elements of S' (the range of f) in an orderly fashion. If $x \in S$, then $f(x) \in S'$ and f(x) is the value of the function f for the argument f. We are justified in speaking of the value of the function for a given argument because of the fundamental property of functions: for any f, f in the domain of f,

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(16) If
$$x = y$$
, then $f(x) = f(y)$.

Hence, f associates each element of S with a single element of S'.

(16) bears a striking resemblance to (6). Frege's insightful suggestion was that we interpret (6) as (16) and supplant the old property/object ontology by a function/object ontology. Before continuing, however, a word of caution is in order. We are accustomed today to the set-theoretic interpretation of functions whereby, for example, a singular function f from S to S' is understood to be a subset of the Cartesian Product $S \times S'$, i.e. f is identified with the set of ordered pairs $\langle x, y \rangle$ such that $x \in S$, $y \in S'$, and y = f(x). Frege, however, did not identify the function with the set of ordered pairs. The set of ordered pairs corresponds roughly to what he called the Werthverlauf, i.e. the value-range or course-of-values of the function. Frege maintained a fundamental ontological division between objects and functions (corresponding to the more traditional ontological distinction between objects and properties). However, functions are the same if they yield the same values for the same arguments; and since this agrees with the extensional view we are used to, we can rely on our set-theoretic intuitions as heuristic when these ontological considerations fade into the background.

Function and argument

Frege (1891) presents his function/argument analysis of arithmetic notation. The numerals

refer to the numbers

respectively. The complex expressions

$$(19)$$
 '0 + 1', '1 + 1', '2 + 1'

refer to the numbers

$$(20)$$
 1, 2, 3

respectively (just as the numerals '1', '2', '3' do). The complex expressions in (19) are constructed by replacing the variable x in

$$(21)$$
 ' $x + 1$ '

by the respective numerals in (17), and (21) stands for the plus 1 function,

$$(22) x + 1.$$

Inserting the numerals (17) into the function expression (21) yields the complex expressions (19); and evaluating the function (22) for the arguments (18) yields the values (20) respectively. The numerals in (17) stand for the numbers in (18), and the expressions in (19) stand for the numbers in (20), which are the values of the function (22) for the arguments (18).

When a number name (i.e. a numeral or complex expression which uniquely identifies a number) is inserted into a function expression, the number name and the function expression combine to form a complex expression. This complex expression stands for the value of the function referred to by the function expression evaluated for the argument referred to by the inserted name. Let $\theta(\Omega)$ be a function expression with one argument-place marked by Ω . Then the principle governing the function/argument notation is

(23) For any function expression $\theta(\Omega)$ and any name α , $r(\theta(\alpha)) = r(\theta)(r(\alpha))$.

This is the *Compositionality Principle for Reference*. And, since a function yields a unique value for a given argument, we obtain as a direct corollary to (23) that a complex expression formed in this manner has a unique reference,

(24) For any function expression $\theta(\Omega)$ and any names α , β , if $r(\alpha) = r(\beta)$ then $r(\theta(\alpha)) = r(\theta(\beta))$.

This is the *Extensionality Principle for Reference*. ¹⁰ Both principles can be generalized for function expressions with more than one argument-place. ¹¹

(23) and (24) are the key principles of the function/argument analysis. (23) says, informally, that the reference of a complex expression is uniquely determined by the reference of its parts; and (24) says, informally, that the reference of the constituent expressions is the only feature of these expressions that counts towards determining the reference of the complex. As is evident from the examples given, (24) is the relevant principle when it comes to the practical question of determining whether a given expression $E(\eta)$, containing the constituent expression η , is complex or not. The procedure is in two parts. First, we replace η by co-referential expressions, and if the reference of the whole remains invariant under these substitutions, then the likelihood is that the reference of $E(\eta)$ depends upon the reference of the constituent η . Second, we replace η by expressions that stand for different objects, and we repeat the procedure from step one for each of these expressions; if we find reference invariance in each case,

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then we have evidence of the orderly connection between the reference of the part and the reference of the whole characteristic of a function, and thus we have evidence that $E(\eta)$ is a function expression.

Application of the analysis

The symbolism Frege has been analysing is an artificial notation designed to facilitate mathematical reasoning, and it has been constructed with an eye towards maximizing perspicuity, brevity, and precision. The virtues of the symbolism are evident to anyone who has tried to work with, say, the English expression 'The number which is obtained by adding one to the result of multiplying two by one' instead of $(2\cdot1) + 1$ '. By comparison, the English expression is just unwieldy. Nevertheless, whatever can be expressed in this notation can also be expressed in English, for we learn to use the notation by mastering a scheme for associating mathematical symbols with expressions in English. We can regard a mathematical expression and its natural-language correlate as notational variants of each other, and so transfer Frege's observations concerning the function/ argument structure of mathematical notation to the structure of its natural language correlates. For example, 'one' and 'two', like '1' and '2', are simple expressions, no parts of which contribute towards determining the reference of the whole; and corresponding to ' $x \cdot y$ ' we have the English function expressions 'x times y' from which complex English number names, like 'two times one', can be constructed. The expression

(27) 'The number which is obtained by adding one to the result of multiplying two by one'

is a complex designator of the number three constructed from (say) the function expression

(28) 'The number which is obtained by adding *x* to the result of multiplying two by one'

by inserting 'one' for the variable. Continuing in this manner, then, we see how that portion of a natural language which serves for discourse about numbers can be analysed along function/argument lines.

But a function/argument analysis can be applied to discourse about any objects whatsoever. Proper names like 'Robert', 'Winston', and 'Paris' are simple expressions. The name 'Robert', for example, contains the name 'Bert' as a proper part, but the reference of 'Bert' does not contribute toward determining the reference of 'Robert'. On the other hand, an expression like the definite description

(29) 'Abraham Lincoln's wife'

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is a complex expression. (29) stands for Mary Todd Lincoln, Abraham Lincoln's wife. If we replace 'Abraham Lincoln' in (29) by 'George Washington', we get

(30) 'George Washington's wife',

which stands for Martha, George Washington's wife. Each of (29) and (30) refers to a unique object (assuming a person can have only one wife); moreover, the reference of each is dependent solely upon the reference of the constituent name, so that if in (29), say, we replace 'Abraham Lincoln' by any co-referential singular term, e.g. 'the President of the United States in 1862', the resultant complex expression would stand for the same person as does (29), namely, Mary Todd Lincoln. Hence, we can regard each of (29) and (30) as having been constructed from the function expression

by inserting the appropriate name for x; and (31), then, stands for

$$(32)$$
 x's wife,

a function that maps a person to his wife.

Extensions of the analysis

However, the most interesting extension of the analysis is to sentences themselves. The equation

$$(33)$$
 ' $(1+1)=2$ '

can be regarded as having a removable part,

$$(34)$$
 ' $(x + 1) = 2$ ',

and depending upon which value we insert for *x*, we get something that is either true or false, but never both. For a given argument, we have a unique value. So, identifying a removable name part in this way, we can regard a sentence as also functionally composed, with

$$(35) (x + 1) = 2$$

being a function that maps objects to truth-values.

A similar analysis works for English sentences. The declarative sentence

(36) 'Abraham Lincoln has red hair'

is complex. The constituent name 'Abraham Lincoln' can be replaced by other singular terms, in each case yielding a sentence that has a unique truth-value, true if the object named has red hair and false if the object named does not have red hair. And the truth-value of (36) depends solely upon the reference of the constituent name: if we replaced 'Abraham Lincoln' by any co-referential singular term the resultant sentence would have the same truth-value as (36). They would both be false. So, we can regard (36) as having been constructed by inserting 'Abraham Lincoln' in place of x in the function expression

(37) 'x has red hair',

and (37), then, stands for

(38) x has red hair,

a function that maps objects to truth-values. A singular function like (38), whose value for any argument is a truth-value, Frege calls a *concept*; a binary function, whose value for any pair of arguments is a truth-value, he calls a *relation*.¹²

A function like (38) is a *first-level function*, one that takes objects as arguments. Frege also identified *second-level functions*, functions that take first-level functions as arguments, and even higher-level functions. Frege regarded the quantifiers as higher-level functions. The first-order quantifiers, for example, were taken to be second-level functions that map first-level functions to truth-values (and since, in each case, the value is invariably a truth-value, Frege calls these functions *second-level concepts*). For example, the declarative sentence

(39) 'Something has red hair'

is understood along the lines of

(40) 'There is at least one argument for which the function *x* has red hair yields the value true'.

Lastly, it is worth noting that by taking sentences to denote the truth-values, Frege presents a clear understanding of the Boolean connectives – 'not', 'and', 'or', 'if, then', etc. – as *truth functions*, i.e. as functions that map truth-values (or *n*-tuples of truth-values) to truth-values. And the notion of a *truth-functional context* is thus seen to be just a special case of an *extensional context*.

The truth-values

Frege (1879) believed that names and sentences both stood for their Contents, and, appropriately, equality of content, the Begriffsschrift surrogate for identity, applied to sentences as well as to names. Frege (1892a) saw no need to alter his treatment of sentences as names. The issue he addressed was not whether sentences refer, but what they refer to. He sought to correct his early account, as well as related views that take propositions, thoughts, states of affairs, or facts as the items referred to by sentences. These items belonged at the level of sense (e.g. a fact is simply a true thought). The two truth-values – true and false, or as Frege preferred, the True and the False – are the only candidates that are functionally related via the compositionality principle (23) to the reference of the parts of the sentence, and which, in turn, are functionally related to the reference of larger constructions in which sentences are embedded. 'What else,' Frege (1892a: 64f.) asked, 'but the truth-value could be found, that belongs quite generally to every sentence if the reference of its components is relevant, and remains unchanged by substitutions of the kind in question?'

Church (1956: 25) presents an elegant development of Frege's argument. He invites us to consider the true sentence

(41) Sir Walter Scott is the author of *Waverley*.

'The author of *Waverley*' refers to the same person as 'the man who wrote twenty-nine *Waverley* novels altogether'. Substituting one term for the other in (41), we obtain the true sentence

(42) Sir Walter Scott is the man who wrote twenty-nine *Waverley* novels altogether,

which, according to (24), must have the same reference as (41). Church then paraphrases (42) as

(43) The number, such that Sir Walter Scott is the man who wrote that many *Waverley* novels altogether, is twenty-nine;

and this, as he remarks, if not synonymous with (42), is 'at least so nearly so as to ensure its having the same reference'. But 'the number, such that Sir Walter Scott is the man who wrote that many *Waverley* novels altogether' stands for the same number as 'the number of counties in Utah', namely twenty-nine. Substituting one term for the other in (43), we get

(44) The number of counties in Utah is twenty-nine

(again, true), which, according to (24), has the same reference as (43).

Hence, each of (41) through to (44) has the same reference. As we have transformed (41) in this series of steps to reach (44), the proposition or thought or state of affairs expressed has changed completely. What remains invariant in the transformations by which we reached (44) from (41)? Truthvalue. All of the sentences are true. So, Church concludes,

Elaboration of examples of this kind leads quickly to the conclusion, as at least plausible, that all true sentences have the same denotation, and parallel examples may be used in the same way to suggest that all false sentences have the same denotation.

(1956: 25)

There is one final matter to note here. Frege (1892a) remarked that when a sentence contains a singular term that lacks a reference, the sentence itself lacks a truth-value. For example, he claims that the sentence

(45) Odysseus was set ashore at Ithaca while sound asleep

lacks a truth-value because 'Odysseus' fails to refer to anything. This does not mean that the sentence is meaningless. Far from it. The sentence has a sense, i.e. it expresses a proposition, even though it lacks a reference, because all of its constituents, including 'Odysseus' have a sense. But Frege took this as confirming his claim that it is the truth-value of a sentence that is compositionally related to the reference of its constituent singular term.

A sharpening of Frege's argument

There have been several formal sharpenings of Frege's argument in the literature. Here is one due to Davidson (1969). Assume that any two logically equivalent sentences have the same reference, and also that we have the device of class abstraction. Where 'p' and 'q' are any two sentences that agree in truth-value, let us consider

$$(47) \{x \mid (x = x) \land p\} = \{x \mid x = x\}$$

(48)
$$\{x \mid (x = x) \land q\} = \{x \mid x = x\}$$

$$(49)$$
 q.

(46) and (47) are logically equivalent, and so, by assumption, they have the same reference. Similarly for (48) and (49). It remains to show that (47) and (48) have the same reference. We get (48) from (47) by replacing the singular term ' $\{x \mid (x = x) \land p\}$ ' by the singular term ' $\{x \mid (x = x) \land q\}$ ';

and since, by assumption, 'p' and 'q' have the same truth-value, these two singular terms have the same reference. So, by (24), (47) and (48) must have the same reference too. Assuming that sentences refer, then, any two sentences agreeing in truth-value have the same reference.

Formalization has the virtue of brevity, but it also renders the strategy of the argument clear. Take two sentences that have the same truth-value but express different propositions. Then transform these different propositions into identities involving definite descriptions for the same object which, although substitutable one for the other *salva veritate*, pick out the object in the different ways embodied in the different propositions. Reference is supposed to be preserved throughout the argument. The substitution of co-referential terms presents no problem; it is only the transformation that must be chosen with care so that it is perceived to preserve reference. In the Davidson version, (46) is transformed into the *logically equivalent* (47); in the Church version (41) is transformed into the *nearly synonymous* (42). We need not concern ourselves with these differences here. 14

A problematic use of Frege's argument

Frege (1892a) was primarily concerned with this extension of the sense/reference distinction to sentences, and with identifying and justifying his choice of truth-values as referents. He devoted fully half his essay to examining purported counterexamples, showing in each case that reference shifting had occurred inside 'that'-clauses. Frege did not use the argument we have examined to show that reference shifted. He believed he was just highlighting and capturing the ordinary use of 'that'-clauses. 'If words are used in the ordinary way,' Frege (1892a: 58) said, 'what one intends to speak of is their reference. It can also happen, however, that one wishes to talk about the words themselves or their sense.' When one encloses the words inside quotation marks, one speaks about the words. 'In reported speech,' Frege (1892a: 59) continued, 'one talks about the sense, e.g., of another person's remarks. It is quite clear that in this way of speaking words do not have their customary reference but designate what is usually their sense.'

Frege's description of our use of oratio obliqua constructions is not beyond question. When we say *Frege thought that Kant was wrong about the epistemological status of arithmetical statements*, it is Kant whom Frege thought erred. He is what we are speaking about, not the sense of the name. On the *de re* reading of the modal claim, *Necessarily the number of planets is greater than 7*, it is the number described that we are speaking about, not the sense of the description. But Frege's argument is not the vehicle for settling the question whether reference shifts in these contexts. The argument is simply an application of compositionality: logical syntax is such that the reference of the whole must have the right relation to the

reference of the parts. On Frege's view, the standard parsing of the sentence remains: the reference of the sentence in a 'that'-clause is a function of the references of its constituent terms, but reference shifts in each case to the customary sense. On the opposing reading according to which reference does not shift, however, grammatical form needs to be re-evaluated, because the standard parsing no longer makes the reference of the complex a function of the references of the parts.

This brings us to Quine's (1953) problematic use of Frege's argument to cast doubt on the coherence of quantified modal logic. Quine makes a fundamental strategic error. For someone who finds the *de re* reading reasonably clear will conclude from the argument that the logical syntax Quine employs must be faulty.

Let us use the usual symbol \square for *Necessarily*, and let us assume (a) that when p and q are logically equivalent, $\square p$ and $\square q$ have the same truth-value, and (b) that substitution of co-referential terms within the scope of \square preserves truth-value. There is little reason to doubt the first assumption. The second assumption is questionable – in fact, it is just the assumption Quine eventually dismisses. But on these two assumptions, Quine argues, it would turn out that \square is a truth-functional operator.

For Quine's argument, we need only preface each step of the Davidson version with a \square :

(50)
$$\Box p$$

(51)
$$\square \{x \mid (x = x) \land p\} = \{x \mid x = x\}$$

(52)
$$\square \{x \mid (x = x) \land q\} = \{x \mid x = x\}$$

(53)
$$\Box q$$
.

Since (46) and (47) are logically equivalent, as we saw earlier, (50) and (51) must have the same truth-value, by assumption (a). Similarly for (52) and (53). We get (52) from (51) by substituting the singular term $\{x \mid (x=x) \land q\}$ for the co-referential $\{x \mid (x=x) \land p\}$, so by assumption (b), (51) and (52) must have the same truth-value. We have our conclusion: when p and q have the same truth-value, p and q have the same truth-value, i.e. q is a truth-functional operator.

But \square is notoriously *not* a truth-functional operator. For, although these two have the same truth-value,

(55) The number of the planets > 7,

these two do not:

- (56) \Box 9 > 7
- (57) \square The number of the planets > 7.

So, by *modus tollens*, the problematic assumption in the argument, (b), is rejected: the positions occupied by the singular terms occurring inside the scope of \Box are, in Quine's well-known terminology, *referentially opaque*. Using Frege's substitutability criterion of *aboutness*, Quine (1953) takes the failure of substitutability just noted as casting doubt on the possibility of understanding $\Box \varphi(x)$ as a genuine open sentence purely *about* an object x.

But there is an ambiguity in (56). On the one hand, it can be read *de dicto*, affirming the necessity of a proposition: it says that the proposition that 9 > 7 is true in every possible world. This is the reading Quine assigns to (56). On the other hand, it can be read *de re*, affirming *of* an object that *it* has a property necessarily. This is the reading Quine (as well as Frege) overlooks. And on this reading, the manner in which the number is picked out is irrelevant to the truth of the claim. In the case of (56), the *de dicto* and the *de re* readings are equivalent, but not so in the case of (57). Because there are these two intelligible readings that differ in truth-value, (57) is outright ambiguous: traditional first-order logical notation is therefore inadequate when modal operators are added. A new syntax is required. Hence, the syntactical assumptions built into Quine's argument – in particular, whether one expression is a logical constituent of another – are unreliable.

How do these observations impact on Quine's argument concerning (50)–(53)? There are two types of substitutions in the argument. On the one hand, we substitute one *sentence* for another that is logically equivalent, to get (51) from (50) and, again, to get (53) from (52). On the other hand, we substitute one *singular term* for another having the same reference, to get (52) from (51). Whatever syntax is ultimately accepted, the *de dicto* reading should permit the substitution of the logically equivalent sentences but not of the co-referential singular terms. The *de re* reading should permit the substitution of the co-referential singular terms but not of the logically equivalent sentences.¹⁷

Quine is quite right about the *de dicto* reading, which is non-referentially transparent. But he has not eliminated a *de re* reading, which *is* referentially transparent; he has simply overlooked it. The coherence of attaching \Box to open sentences is untarnished, but, of course, there still remains the technical problem of linking up the two readings in a formal setting.¹⁸

Truth and assertion

Russell objected to taking sentences as names of truth-values. In a letter to Frege dated 2 February 1903, Russell (1903b: 155f.) says

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I have read your essay on sense and meaning, but I am still in doubt about your theory of truth-values, if only because it appears paradoxical to me. I believe that a judgement, or even a thought, is something so entirely peculiar that the theory of proper names has no application to it.

And in another letter dated 12 December 1904, he returns to the issue. Speaking of the proposition that Mont Blanc is more than 4,000 metres high, Russell (1903b: 169) says: 'for me the *meaning* of a proposition is not the true, but a certain complex which (in the given case) is true'.

Russell's unhappiness has more recently been voiced as well by Max Black:

We may assume that if A and B are designations of the same thing the substitution of one for the other in any declarative sentence will never result in nonsense. This assumption would not have been questioned by Frege. Let A be the sentence 'Three is a prime' and B the expression 'the True'. Now 'If three is a prime then three has no factors' is a sensible declarative sentence; substitute B for A and we get the nonsense 'If the True then three has no factors'. The last form of words has no more use than 'If seven then three has no factors' or indeed any form of words containing an expression of the form 'If X then . . .' where 'X' is replaced by a designation. Hence, according to our assumption, A and B are not designations of the same thing – which is what we set out to prove.

(1968: 229f.)

Black considers this argument 'sufficient refutation of Frege's view that sentences are designations of truth-values'. However, it has become routine in logic to treat a sentence as a name of a truth-value, and even to introduce the name of a truth-value as a constant which occupies sentence position. ¹⁹ Given the simplicity, elegance, and fruitfulness of this treatment, it is attractive to say that Black has not produced meaninglessness, but merely oddness. His argument does not constitute a refutation of Frege's view; nor does it indicate that further clarification will lead to anything that causes us to reject Frege's view.

Part of the oddness stems from the fact that, in natural language, singular terms and sentences belong to different syntactic categories. Frege assigns them to the same syntactic category: *Eigennamen*, he calls them. We have seen no logical difficulty in this treatment. But part of the oddness stems from the fact that sentences are asserted, while singular terms are not. Frege had much to say about this.

Words like 'judgement' and 'assertion' exhibit a process/product ambiguity. By an assertion we may mean either that which is asserted or the asserting of it.²⁰ This distinction is rather easy to miss. Frege (1915: 251) puts it this way: 'When something is judged to be the case, we can always

cull out the thought that is recognized as true; the act of judgement forms no part of this.' In a conditional, neither the antecedent nor the consequent is asserted or judged to be true; none the less, each part of the conditional is a complete thought, a proposition.

Frege (1893: 35) assimilated these non-assertive uses of sentences to designating: 'I do not mean to assert anything if I merely write down an equation, but . . . I merely *designate* a truth-value, just as I do not assert anything if I merely write down " 2^2 ", but merely *designate* a number.' He introduced the special sign \vdash to indicate that what follows it is being asserted. ' \vdash 2² = 4' is not a name at all; it does not denote, or even purport to denote, anything. ' \vdash ' is rather an illocutionary operator – 'It is hereby asserted that' – which attaches to a name of a truth-value to create an asserting of the thought expressed by the sentence to which the operator is attached.

The treatment of the sign \vdash in Frege (1893) is in marked contrast to the treatment it receives in Frege (1879: 3f.), where, not having clearly distinguished yet between a content and the judging of a content to be true, Frege claimed that \vdash was a predicate:

We may imagine a language in which the proposition 'Archimedes perished at the capture of Syracuse' would be expressed in the following way: 'the violent death of Archimedes at the capture of Syracuse is a fact'. You may if you like distinguish subject and predicate even here; but the subject contains the whole content, and the only purpose of the predicate is to present this in the form of a judgment. Such a language would have only a single predicate for all judgments, viz. 'is a fact'. . . . Our symbolic language is a language of this sort; the symbol \vdash is the common predicate of all judgments.

Frege (1879) thought that attaching 'It is true that' turned an utterance into an assertion. This is the only place we find truth or falsity in Begriffsschrift. Frege (1879) accounted for the properties of the logical connectives in terms of their being affirmed or denied. Frege (1893), on the other hand, has entirely wrung out the assertive aspect from sentences, and especially from the copula, with which it has commonly been associated. Now sentences designate truth-values, and the connectives are explained in terms of truth-value. Their assertive role has been transferred to the sign \vdash . Unasserted sentences are nevertheless true or false, and so truth-values belong not to \vdash , but to the referential apparatus of the notation.

The sign \vdash is actually a combination of two signs, a vertical stroke | and a horizontal stroke \vdash . The horizontal stroke turns what follows it into the name of a truth-value, and the vertical stroke indicates that what follows is being asserted. The horizontal stroke can occur without the vertical stroke (but not conversely). — is a one-place function expression which attaches to a name to form the name of a truth-value: — Δ 'is the True if Δ is the

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True; on the other hand it is the False if Δ is not the True' (1893: 38). Since it is a function that maps objects to truth-values, it stands for a concept, a concept under which a single object, the True, falls, namely, the concept being true or being the True. As usual, Frege defines the function for any argument whatsoever. When the horizontal sign is attached to the name of a truth-value, the whole refers to the same truth-value, but when the horizontal sign is attached to a name for something other than a truth-value, then the whole refers to the False. Although sentences and ordinary singular terms belong to the same syntactic category, not all names are assertible, but only names of truth-values. In this way Frege honours the intuitive difference that Black and Russell thought he had ignored.

Is truth a predicate?

If we read $-\Delta$ as *It is true that* Δ , it might appear that *true* is a conceptword, not a name for an object. But this is not so. Taking our cue from Frege's distinction between the planet Venus and the concept *being none other than Venus* – the concept denoted by 'x = Venus' – we might take the concept *being true* to be *being identical with the True*, the concept denoted by 'x = the True'. Then we understand

(58) It is true that 5 is a prime number

to be an identity:

(59) 5 is a prime number = the True.²²

So 'true' is no more a concept-word than is 'Venus': (58) says that something falls under the concept *being identical with the True*, not that something falls under the concept *the True*.

Indeed, it is futile to persist in supposing that 'true' is a concept-word once we have accepted the function/argument analysis. For if we try to regard *true* as a concept-word that attaches to a name (of whatever entity) to create a more complex name, then since each of these are names, and so refer to objects, the argument on pp. 39–41 shows that they refer to truth-values. That is, once we try to regard *true* as a function, we are forced to take the truth-values as objects, so there is no point in even trying to regard it as a function.

It is a consequence of Frege's view that (58) and

(60) 5 is a prime number

must have the very same reference, i.e. the same truth-value. In modern terms, Frege holds:

(61) The proposition that p is true iff p.

However, Frege goes a bit further in his account of truth:

One might be tempted to regard the relation of the thought to the True not as that of sense to reference, but rather as that of subject to predicate. One can, indeed, say: 'The thought, that 5 is a prime number, is true'. But closer examination shows that nothing more has been said than in the simple sentence '5 is a prime number'.²³

(1892a: 64)

The claim is that (58) and (60) express the same proposition.²⁴ This is a much stronger claim than (61), and puts pressure on his theory. Frege says

From this, one might suppose that the word 'true' has no sense at all. But then a sentence in which 'true' occurred as predicate would also lack sense. We can only say: the word 'true' has a sense which does not contribute to the whole sense of any sentence in which it occurs as predicate.

(1915: 252f.)

But his theory leaves no room for an expression to have sense, and yet not to contribute anything to the sense of an expression containing it. This remains an open problem for Frege's story about truth.

The Correspondence Theory of Truth

Still, there remains a nagging suspicion that Frege has got the story about the reference of a sentence wrong. What objects are these, the True and the False?

Facts are especially strong candidates for being the reference of sentences because of their connection with truth. It is commonly held that the truth of a sentence resides in its correspondence with the facts. Tarski (1944: 15), for example, says: 'If... we should decide to extend the popular usage of the term "designate" by applying it not only to names, but also to sentences,' then the following formulates the philosophical view of truth Tarski seeks to make precise: 'A sentence is true if it designates an existing state of affairs'. Viewed from this perspective, it would seem that Frege has got the analysis of sentences all wrong. A sentence does not stand for a truth-value, one is inclined to say, but for a (possible) fact, and truth comes in when the (possible) fact named by the sentence obtains.

The problem with supposing that sentences designate (possible) facts is, as we have already noted, that the fine distinctions wanted are not forthcoming. For all true sentences must name the same fact – *the Great Fact*, as Davidson (1969) calls it. Gödel (1944: 214) has remarked on the metaphysical character of Frege's notion of the True, 'reminding one

somewhat of the Eleatic doctrine of the "One". The resemblance is certainly striking. For the True – or the Great Fact, or Reality – appears to be an undifferentiated totality much like Parmenides' Being. But there is a very significant difference: whereas Parmenides admitted Being, and Being only, Frege appears to admit both Being and Not-Being. False sentences, too, are names. They are names of the False. So, for Frege, there appears to be a Great Non-fact alongside the Great Fact.

However, if we have both a Great Fact and a Great Non-fact, then the neat relation between facts and truth no longer holds. Recall that facts were introduced in order to explain truth: a sentence was said to be true if the (possible) fact it named obtains. But then a false sentence, being false, stands for the Great Non-fact, and since the Great Non-fact obtains, the sentence must be true. Hence it turns out that if a sentence has any truth-value at all, it has the truth-value *true*. The idea behind the appeal to facts, however, is that a sentence is, metaphorically speaking, aimed at reality, and the sentence is true if it reaches its intended mark, and false if it does not. A natural attempt at patching up this account of truth would be to say that a sentence is true if, and only if, it names the Great Fact, and false if, and only if, it names the Great Fact, and false if, and only if, it names the Great Fact, and false if, and only if, it names the Great Non-fact. But this too fails. We do not expect reality to include both Reality and Unreality.

We have been assuming that there is something outside the realm of sentences (or thoughts) in virtue of which sentences (or thoughts) are said to be true; and we have, quite literally, assumed the True to be that thing. We have attempted to fit the True into what was essentially a Correspondence Theory of Truth. But Frege explicitly rejects the Correspondence Theory of Truth, and the True is not supposed to play anything like the role in his metaphysical scheme that Davidson and Gödel would have us think. Frege argues that 'being true does not consist in the correspondence of [a] sentence with something else, for otherwise the question of truth would reiterate itself into infinity' (1918: 510f.). Frege casts the Correspondence Theory as an account of our speaking of a picture, assumed to depict something, as being a *true* picture:

It might be supposed from this that truth consists in the correspondence of a picture with what it depicts. Correspondence is a relation. This is contradicted, however, by the use of the word 'true', which is not a relation word and contains no reference to anything else to which something must correspond. If I do not know that a picture is meant to represent Cologne Cathedral, then I do not know with what to compare the picture to decide on its truth.

(1918:509)

According to the Correspondence Theory, we are to imagine that we match up a picture with the item the picture is intended to represent, and if the two correspond, then the picture is said to be a true picture. But, Frege points out, truth itself is not a correspondence relation; rather, we must assume some correspondence scheme linking pictures with the things they are intended to depict, and then define truth for pictures in terms of their fidelity modulo this correspondence scheme. That is, we determine whether a particular picture is true by determining whether that picture *in fact* corresponds to the item it was intended to depict. But in that case, Frege argues, the attempt to define truth as correspondence leads to a vicious regress:

Can it not be laid down that truth exists when there is correspondence in a certain respect? But in which? For what would we then have to do to decide whether something were true? We should have to inquire whether it were true that [a picture] and a reality, perhaps, corresponded in the laid-down respect. And then we should be confronted by a question of the same kind and the game could begin again. So the attempt to explain truth as correspondence collapses.

(1918:510)

The problem is that we do not lay down a correspondence scheme and afterwards raise the question of truth: truth is already being assumed in the setting up of the scheme itself.

So what are these objects, the True and the False? When we speak of names as expressions that refer to objects, and we suppose that we use these names to speak about these objects, then we believe we should be able to identify them in some way. If a true sentence stands for the True, we suppose that the sentence is about it; then we look to find the object referred to and see whether it is of such a sort so as to render the sentence true or false. But things are altogether different for sentences. In the case of sentences, it appears that first we determine the truth-value of the sentence and thereby determine the object stood for. Can this be right? Frege thinks that it is. It is a mistake, from Frege's point of view, to search for and examine these abstract objects themselves. This is just the path he admonishes us from following in the famous Context Principle: 'never to ask for the meaning of a word in isolation, but only in the context of a proposition' (1884: x). Frege has given us a very fruitful and precise account of reference through his development of the compositionality principles. But his unfolding of these principles has moved us far from the original intuitions, described on pp. 30-1, connecting up standing for and aboutness, and the question that remains is whether the Context Principle provides us with enough of a story to satisfy us that sentences do stand for these objects, the True and the False.

Conclusion

Frege not only developed modern logic; with his compositionality principles, he developed a very powerful picture with strong metaphysical

implications. In this essay, we have found that his logical grammar has also led to important and lasting philosophical insights. I will mention one more in closing. Frege's analysis of truth leads him to deny one of the most well-entrenched traditional accounts of truth, the Correspondence Theory, and to suggest accounts of truth more in line with the minimalist notions which prevail today. This is particularly noteworthy because we usually think of the Correspondence Theory as a handmaiden to Realism. Frege's break with this tradition presents a challenge to our way of understanding Realism.

Notes

- 1 I am grateful to Stewart Candlish, Richard Gaskin, and Peter Simons for their comments on an earlier version of this paper.
- 2 In recent years, translators have been rendering *Bedeutung* as *meaning*. Although perhaps a bit more faithful to the German, the English can mislead one to identify the meaning of a name with the object for which it stands, thereby muddling the distinction. I prefer the earlier translation.
- 3 For a fuller discussion of Frege's *Begriffsschrift* theory of identity, see Mendelsohn 1982.
- 4 This will be stated more precisely shortly.
- 5 For further discussion of these issues, see Cartwright 1971.
- 6 For a more thorough discussion of this reference shifting, and a more complete statement of Frege's semantic principles, see Mendelsohn 1996.
- 7 f is a function of one argument, but we can speak of functions which associate pairs of elements of S with elements of S', and in general, of n-ary functions which associate n-tuples of elements of S with elements of S'. The generalized property governing functions would thus be: for any \(\lambda r_1, \ldots, \ldots_n \rangle \rangle y_1, \ldots, \ldots_n \rangle \rangle \rangle in the domain of g, if \(x_1 = y_1, \ldots, x_n = y_n \), then \(g(x_1, \ldots, x_n) = g(y_1, \ldots, y_n \rangle \).
 8 In this and the following two sections I enclose expressions in single quote
- 8 In this and the following two sections I enclose expressions in single quote marks even when indenting as an added protection against use/mention confusion.
- 9 Frege also held a *Compositionality Principle for Sense*: for any function expression $\theta(\Omega)$ and any name α , $e(\theta(\alpha)) = e(\theta)(e(\alpha))$. That is, the sense of the whole is a function of the sense of the parts.
- 10 As with Compositionality, Frege also held an *Extensionality Principle for Sense*: for any function expression $\theta(\Omega)$ and any names α , β if $e(\alpha) = e(\beta)$, then $e(\theta(\alpha)) = e(\theta(\beta))$.
- 11 Let $\Gamma(\theta_1, \theta_2, \dots, \theta_n)$ be a function expression with *n* argument-places $(\theta_1, \theta_2, \dots, \theta_n)$ not necessarily distinct). Then, corresponding to (23) and (24), we have
 - (25) For any *n*-place function expression $\Gamma(\theta_1, \theta_2, \dots, \theta_n)$ and any names $\alpha_1, \alpha_2, \dots, \alpha_n, r(\Gamma(\alpha_1, \alpha_2, \dots, \alpha_n)) = r(\Gamma)(r(\alpha_1), r(\alpha_2), \dots, r(\alpha_n))$

and

(26) For any *n*-place function expression $\Gamma(\theta_1, \theta_2, \dots, \theta_n)$ and any names α_1 , $\alpha_2, \dots, \alpha_n, \beta_1, \beta_2, \dots, \beta_n$, if $r(\alpha_1) = r(\beta_1), \dots, r(\alpha_n) = r(\beta_n)$, then $r(\Gamma(\alpha_1, \alpha_2, \dots, \alpha_n)) = r(\Gamma(\beta_1, \beta_2, \dots, \beta_n))$.

- 12 An example of a relation would be the function *x conquered y*, which is true for the argument pair (Caesar, Gaul) and false for the argument pair (Hannibal, Rome).
- 13 Unless one thinks that definite descriptions are not referring expressions, something that never occurred to Frege because definite descriptions are the paradigm of complex referring expression on which he based his logical grammar and its metaphysical connection to objects and properties. But cf. Gödel 1944, Neale 1995, and Donaho 1998.
- 14 Gödel (1944) also presents an elegant formulation. For a discussion of the differences, see Neale 1995.
- 15 This is just because the proper name '9' is taken to be a rigid designator, but the description 'the number of the planets' is not.
- 16 The great virtue of Russell's technical treatment of definite descriptions is that it provides a syntax for marking this distinction. Fitting and Mendelsohn (1998) adopt a predicate-abstraction notation for first-order modal logic. The *de re* reading of (56) is $\langle \lambda x. \Box (x > 7) \rangle$ (9). \Box attaches to the predicate x > 7 to form the complex predicate $\Box(x > 7)$, which is applied to the name. (We affirm *of* the number 9 that *it* has the property *being necessarily greater than 7*). The *de dicto* reading of (56) is $\Box \langle \lambda x. x > 7 \rangle$ (9). \Box attaches to the closed sentence $\langle \lambda x. x > 7 \rangle$ (9). (We affirm it is necessary *that* the number 9 is greater than 7.) See Fitting and Mendelsohn (1998) for further discussion.
- 17 For example, on the *de re* reading, (53) cannot follow from (52) in the manner indicated in Quine's argument. If 'q' is true in this world, ' $\{x \mid x = x \land q\}$ ' in this world designates $\{x \mid x = x\}$ and this object is, in every possible world, identical with $\{x \mid x = x\}$. But this does not mean that 'q' is true in every possible world. If the terms were both *rigid designators* and ' $\{x \mid x = x \land q\}$ ' would be rigid if 'q' were necessarily true the *de re* reading would be logically equivalent to the *de dicto* reading. But the argument is constructed with a non-rigid designator, ' $\{x \mid x = x \land q\}$ '.
- 18 For further discussion of these matters, see Fitting and Mendelsohn 1998.
- 19 Begin propositional logic with the two primitives, \supset (for *if, then*) and *F* (for *false*), and then define $\neg p$ as $p \supset F$. See Church 1956.
- 20 Frege's account of judging is largely metaphorical. Frege (1892a: 65) says that 'judgements can be regarded as advances from a thought to a truth-value'. On another occasion, Frege (1918: 513) characterizes a judgement as 'the recognition of the truth of a thought'.
- 21 This is in Frege 1892b. For a discussion, see Mendelsohn 1978.
- 22 Remember that Frege regarded declarative sentences as names. (59) might sound odd to the reader, just as Black noted above. But it would be a mistake to replace it with something like 'The proposition that 5 is a prime number = the True' because this, for Frege, is false: a proposition is not a truth-value.
- 23 This would indicate, however, that (58) says that the thought *stands for* the True. There is a small problem that should be noted. If (45) lacks truth-value, then so must
 - (62) It is true that Odysseus was set ashore at Ithaca while sound asleep.

Now, if we understand (62) to be an identity,

(63) Odysseus was set ashore at Ithaca while sound asleep = the True,

then we can easily affirm that (63) lacks truth-value. The constituent sentence (45), by hypothesis, lacks a reference, and so the complex in which it is embedded,

- viz. (63), must also lack a reference. But if we understand (62) to ascribe a property to the thought expressed by the sentence (45), i.e. as
- (64) That Odysseus was set ashore at Ithaca while sound asleep denotes the True,
- then we shall have to say that (62) is false. The sentence is meaningful, and so expresses a thought, but it does not designate a truth-value (and so does not denote the True). Hence these two do not quite yield the same analysis.
- 24 This is the source of one version of what has come to be known as *The Redundancy Theory of Truth*, which goes roughly as follows: to say *It is true that p* is to say no more nor less than just *p*, and to say *It is false that p* is to say no more nor less than just ¬*p*. Incidentally, this is not to say that Frege endorsed any particular definition of truth. On the contrary, his view remained that truth is indefinable.

References

Note: where reprintings are specified, all page references in the text are to the reprint.

- Black, M. (1968) 'Frege on Functions', reprinted in Klemke (1968): 223-48.
- Cartwright, R. (1971) 'Identity and Substitutivity', reprinted in R. Cartwright *Philosophical Essays*, Cambridge, Mass.: MIT Press, 1987: 135–47.
- Church, A. (1956) *Introduction to Mathematical Logic, Volume I*, Princeton, NJ: Princeton University Press.
- Davidson, D. (1969) 'True to the Facts', Journal of Philosophy 66: 748-64.
- Donaho, S. (1998) 'Are Declarative Sentences Representational?', Mind 107: 33–58.
- Fitting, M. and Mendelsohn, R. L. (1998) *First-Order Modal Logic*, Dordrecht: Kluwer.
- Frege, G. (1879) Begriffsschrift, eine der arithmetischen nachgebildete Formelsprache des reinen Denkens, Halle: Nebert. Chapter I translated in Frege (1952): 1–20.
- (1884) Die Grundlagen der Arithmetik, eine logisch-mathematische Untersuchung über den Begriff der Zahl, Breslau: Koebner. Translated by J. L. Austin as, The Foundations of Arithmetic: A Logico-mathematical Enquiry into the Concept of Number, Oxford: Blackwell, 1959.
- (1891) Funktion und Begriff, Jena: Pohle. Translated as 'Function and Concept', in Frege (1952): 21–41.
- —— (1892a) 'Über Sinn und Bedeutung', Zeitschrift für Philosophie und philosophische Kritik 100: 25–50. Translated as 'On Sense and Reference', in Frege (1952): 56–78.
- (1892b) 'Über Begriff und Gegenstand', *Vierteljahresschrift für wissenschaftliche Philosophie* 16: 195–205. Translated as 'On Concept and Object', in Frege (1952): 42–55.
- ——— (1893) *Grundgesetze der Arithmetic, Volume I*, Jena: Pohle. Partial translation by M. Furth as *The Basic Laws of Arithmetic: Exposition of the System*, Berkeley: University of California Press, 1964.
- (1915) 'Meine grundlegenden logischen Einsichten', translated as 'My Basic Logical Insights', in H. Hermes *et al.* (eds) *Gottlob Frege, Posthumous Writings*, Chicago: University of Chicago Press, 1979: 251–2.

- (1918) 'Der Gedanke: Eine logische Untersuchung', *Beiträge zur Philosophie des deutschen Idealismus* 1: 58–77. Translated as 'The Thought: A Logical Inquiry', in Klemke (1968): 507–35.
- ——— (1952) Translations from the Philosophical Writings of Gottlob Frege, ed. and trans. M. Black and P. Geach, Oxford: Blackwell.
- Gödel, K. (1944) 'Russell's Mathematical Logic', reprinted in H. Putnam and P. Benacerraf (eds) *Philosophy of Mathematics, Selected Readings*, Englewood Cliffs: Prentice-Hall, 1964: 211–32.
- Klemke, E. D. (ed.) (1968) *Essays on Frege*, Chicago/London: University of Illinois Press.
- Meinong, A. (1904) 'The Theory of Objects', translated in R. M. Chisholm (ed.) *Realism and the Background of Phenomenology*, New York: Free Press, 1960: pp. 76–117.
- Mendelsohn, R. L. (1978) 'Frege on Predication', *Midwest Studies in Philosophy* VI: 69–82.
- (1982) 'Frege's Begriffsschrift Theory of Identity', Journal of the History of Philosophy 20: 279–99.
- ——— (1996) 'Frege's Treatment of Indirect Reference,' in M. Schirn (ed.) *Frege: Importance and Legacy*, Berlin: Walter de Gruyter: 410–37.
- Mill, J. S. (1843) A System of Logic, Ratiocinative and Inductive, Being a Connected View of the Principles of Evidence and the Methods of Scientific Investigation, London: J. W. Parker.
- Neale, S. (1995) 'The Philosophical Significance of Gödel's Slingshot', *Mind* 104: 761–825.
- Quine, W. V. O. (1953) 'Reference and Modality', in W. V. O. Quine *From a Logical Point of View*, 2nd edn. rev., New York: Harper & Row, 1961: 136–59.
- Russell, B. (1903a) The Principles of Mathematics, New York: Norton, 1938.
- (1903b) Correspondence with Gottlob Frege. Translated in G. Gabriel *et al.* (eds), *Gottlob Frege, Philosophical and Mathematical Correspondence*, Chicago: University Press, 1980.
- Tarski, A. (1944) 'The Semantic Conception of Truth', reprinted in L. Linsky (ed.) *Semantics and the Philosophy of Language*, Urbana: University of Illinois Press, 1952: 13–47.
- Wittgenstein, L. (1922) *Tractatus Logico-Philosophicus*, London: Routledge & Kegan Paul, 1961.

2 Categories, construction, and congruence

Husserl's tactics of meaning

Peter Simons

Background

Husserl's *Fourth Logical Investigation*, published in 1901, is called 'The Distinction Between Independent and Non-Independent Meanings and the Idea of Pure Grammar' (301–51; 493–529). It contains most of his ideas on grammar. There are a few minor revisions to the ideas presented there in an Appendix I (*Beilage* I) to the *Formal and Transcendental Logic* of 1929 (Husserl 1974: 299–313; 1969: 294–311), but for the most part Husserl's views on grammar were fixed by 1901.

The Fourth Investigation is the shortest of the six but it is one of Husserl's most prophetic pieces, partly because it anticipates ideas which did not emerge again until the 1960s and partly because it exercised a certain direct and indirect influence on developments in logical grammar through to our day. I shall talk about this legacy at the end.

The Logical Investigations were assorted studies written around Husserl's project of a pure logic. At the end of his critique of psychologism in Volume I of the *Investigations*, Husserl outlines a positive programme for logic as an objective discipline (I, 230-58; 225-47). The underlying ontology is Platonistic: logic gains its normative validity by virtue of describing the actual laws or relationships holding in an abstract or, as Husserl calls it (105; 330), ideal realm of meanings. The philosophers Husserl cites as having influenced him in this regard are Lotze and Bolzano (I, 229; 224), though Frege probably also had some input to his views. *Investigation* I is concerned with the nature of meaning in general (cf. Simons 1995). Husserl takes meanings to be abstract kinds or *species*, as he calls them: each meaning is the kind of an aspect of particular mental acts of meaning. While meanings in this sense share with Bolzano's Vorstellungen an sich and Sätze an sich (and likewise with Frege's senses) their objective and abstract status, they are different from Bolzano or Frege's meanings in that the latter have only an external relationship to mental acts. Bolzano and Frege use similar German words for grasping or apprehending: fassen (Frege 1967: 361; 1984: 371) and erfassen (Bolzano 1935: 85) or auffassen (Bolzano 1987: 66), to describe the relationship between a thinker and an abstract meaning.² For Husserl the relationship is more intimate: part of my act of meaning exemplifies a certain meaning itself. When I think that grass is green, part of my thought exemplifies the proposition, and this in turn has parts exemplifying the concepts of *grass*, of *is*, and of *green*. Later Husserl modified his view of meaning towards a theory closer to those of Bolzano and Frege, but that does not materially affect the status of his account of grammar that I shall present.

The *Third Investigation* on part and whole considers two kinds of part, essentially dependent and essentially independent parts, and Husserl applies this distinction to meanings in the *Fourth Investigation*.

Husserl's work is roughly contemporaneous with that of Saussure, of whom he had no knowledge, and of Marty, whom he cites (cf. 311ff.; 499ff.) and with whom he often disagrees (e.g. 349; 527), as Brentano's students were wont to do among themselves. His differences with Marty concern the foundations of grammar: whereas Marty like Husserl calls for a universal grammar (Marty 1908: 56ff.), and as a philosopher of language makes more effort than Husserl to provide one, he bases the universality on Brentano's analysis of mental functions, and is thus psychologistic as against Husserl's Platonism. Marty in this respect is more in tune with modern linguistics than Husserl.⁴

Like many of his works, including his most suggestive and prophetic ones, and excluding only his detailed studies of phenomenology, Husserl's theory of grammar is annoyingly long on programmatic pronouncement and short on detail: he is satisfied to point out the need for a theory of logical grammar, offer some advice and a few examples and distinctions, and leave the rest to be carried out by others.

The actual order of exposition and discussion of topics in the *Fourth Investigation* is not especially helpful for understanding Husserl's theory of grammar; so I shall present things in a different order which brings out their interconnectedness.

The tactics of meaning

The term 'tactics' is taken from the American linguist and inventor of stratificational grammar Sydney M. Lamb (Lamb 1966: 21). Lamb points out that at each of the levels, ranks or strata of language, of which there are at least four, there are certain forms of combination of units. Thus phonetic features, phonemes, morphemes, lexemes (words) and sememes (semantic units) all have their characteristic kinds and principles of combination, in addition to complex relationships of codification or realization in the adjacent levels. The combination principles of the *emes* (units) of a given level are the *tactics* of that level. Lamb calls the principles of combination for the five types of *eme* mentioned respectively hypophonotactics, phonotactics, morphotactics, lexotactics and semotactics. The combinatory part of semantics is semotactics, traditional grammar or syntax is lexotactics. So much for terminology.

Husserl's pure grammar is not concerned with the actual words of a given language, nor is it concerned with accidental features of realization. Rather Husserl is concerned, as he frequently says, with essential or a priori laws or principles of combination of meanings (325ff.; 510ff.). This makes his grammar different in two ways from what is standardly called 'grammar' by linguists. First, he is not concerned with actual or even potential expressions as such but with meanings. These Platonic items can obey in their own right laws of combination irrespective of whether or how they are actually realized or expressed in any particular language. The details of how any actual language goes about expressing universal features of meaning is something Husserl happily leaves to others as 'empiricalgrammatical' (347ff.: 526). Second, Husserl is uninterested in mere matters of fact or variation among languages and expressions. He has his eye on essence, the invariant principles present in all possible languages, and speaks of an 'a priori grammar' (302; 493). In this he to some extent resembles modern proponents of Universal Grammar, except that presumably Husserl would have disagreed with the anthropocentric restrictions and psychologistic foundations of the latter.

Meanings being intangible items, Husserl cannot give direct examples of what they are or how they combine: unsurprisingly, he is constrained to use printable natural language examples, all of which come from his native German. There is thus a danger, of which Husserl is aware, that factors accidental to German may intrude on the purity of his grammar. He is also aware that there is some discrepancy between the boundaries and features of words and other expressions on the one hand and the boundaries and features of meanings on the other (303ff.: 495ff.). There is a third and more subtle but also more pernicious danger, of which Husserl seems to be less aware, namely that the grammatical or syntactic categories standardly employed to describe the syntax of German and other languages, such as name, adjective, relative, sentence, may but also may not be a good guide to the categories and combination principles of meanings themselves, once we have shaken off the 'empirically contaminated' example of Latin grammar or a grammarian's own 'pre-scientific personal opinions' (348; 526), which concern only the idiosyncrasies of given languages. Husserl simply takes it for granted that the 'purified' categories of NOUN, SENTENCE, and ADJECTIVE are universal. So while his intention and rhetoric are aimed at a tactics of meanings, his data serve largely the tactics of lexemes, and the methodological difficulty of discerning and justifying semantic classes and combination principles, and the indirectness of their relationship to word classes, is something of which he appears to be largely unaware.5 In this Husserl is of his time.

One kind of datum Husserl exploits is the recognition of nonsense. Whereas the sentence

expresses a unified meaning (327; 511), a similar four-word string

*This careless is green

fails to do so (328; 512), as do numerous other examples Husserl constructs: we have a jumble or heap of meanings which do not cohere into a whole. This, Husserl stresses, is not just an accident, there are laws at work. It is not just that the sentence is ungrammatical (though it is). There are ungrammatical sentences or other expressions which are wrong but which do not result in nonsense as this does. Husserl does not give an example but here is one. The German translation of the English phrase

a tall man and a short woman

is (in the nominative)

ein großer Mann und eine kleine Frau

whereas the phrase

*eine großes Mann und ein kleinen Frau

is ungrammatical because it not only gets the genders of the nouns wrong (as seen by the articles) but violates the rules of nominal—adjectival gender concord (as seen by the adjectival endings). But apart from this relatively superficial lexotactic feature the phrase gets the intended meaning across with no great difficulty, and any German native speaker would both recognize what is meant and what is grammatically wrong. An English example is the false lexeme *gooder, a mistakenly regular comparative of good, used by children and recognized in its meaning by adults (Lamb 1966: 18). A defective sentence like

*Shakespeare writed gooder than Fletcher

has a recoverable unified meaning despite its ungrammaticality (in each case morphotactic to lexical realization errors).

With this reservation, what distinguishes nonsense from non-nonsense? Husserl's view is that it is laws governing the combination of meanings. Some combinations are acceptable, giving rise to unified meaning wholes, others are not. The laws are general, governing whole classes of meanings, and these classes Husserl calls 'meaning categories' (*Bedeutungskategorien*) (326; 511). Findlay translates this term as 'semantic categories' but I prefer my translation for reasons which will emerge. I shall return to meaning categories in the next section.

58 Peter Simons

Husserl distinguishes between two easily confused senses of 'nonsense' (*Unsinn*). The first we have just met. The second is the sort of nonsense we meet in expressions like

round square

wooden iron

All squares have five angles

Husserl calls nonsense of the second kind 'countersense' (*Widersinn*): I shall follow Findlay and use the term 'absurd' or 'absurdity' instead of Husserl's neologism. As Husserl quite rightly points out, absurdity is quite different from nonsense. An absurd phrase or sentence is absurd not because it lacks a unified meaning; rather, it is absurd because precisely by virtue of its having a unified meaning we see at once that the phrase can have no object falling under it or that the sentence cannot be true. The terms 'nonsense' and 'absurdity' had and have often been used indiscriminately for both sorts of nonsense identified by Husserl. Indeed we often use the term for very improbable or surprising cases like

a research mathematician who cannot add up

which describe unusual or surprising cases but not impossible ones.

Husserl also usefully distinguishes between formal and material absurdity (343; 523). Formal absurdity concerns either violations of logical principles, such as

This book is both blue and not blue

or formal ontological absurdity such as

a man without qualities

resting not on logic but on ontological form. Absurdity for whatever reason rules out truth in the case of sentences, and the possibility of an object's falling under a concept in nominal cases.

Logic as Husserl sees it has three stages. At the first stage we sort out the unified from the non-unified meanings. Only unified meanings (those which have sense rather than being nonsensical) pass. We can call these well-formed meanings. Among well-formed meanings, we next rule out those which are objectless from objectual ones, or propositions which are logically false as distinct from those which are not logically false. It is with such laws of avoiding absurdity and preserving validity that logic is

primarily concerned. Finally Husserl sees a role for what he calls a logic of truth, a less well-defined idea (and one which has not been influential), which looks among other things to excluding other kinds of absurdity.

The tactics of meaning apply at the very first stage, in the elimination of nonsense.

But how is nonsense distinguished from sense? Here Husserl is suggestive but elusive, merely saying that there are principles of combination of meanings at the level of categories, and that a complex meaning is one which is not ruled out by such principles (326; 510).

Meaning categories

Laws for avoiding nonsense operate at the category level, not at the instance level. What then is a meaning category? Husserl has a very fruitful and apparently simple suggestion. If we take a meaningful expression and replace part of it by another and the resulting expression is not meaningful, then we know the two expressions do not have meanings of the same meaning category. Conversely then, two expressions are of the same meaning category if any complex meanings differing only in that one meaning is substituted for the other are either both congruent or both incongruent. In other words, co-categoriality is intersubstitutability salva congruitate in all contexts. Finessing the difference between meaningful expressions, belonging to a given category, and the meanings of those expressions themselves, we may say the same about the meanings. But because Husserl's real aim is to talk about the meanings rather than the expressions, I translate Bedeutungskategorie as 'meaning category' rather than as 'semantic category', which has been used mainly for (classes of) expressions. Meaning categories are in extension equivalence classes of meanings under intersubstitutability.

Husserl does not put things so crisply. In fact this idea, with which we are now so familiar, is expressed rather clumsily. Here is the meat of the most relevant passage.

Meanings only fit together in antecedently definite ways, composing other significantly unified meanings, while other possibilities of combination are excluded by laws, and yield only a heap of meanings, never a single unified meaning. . . . The impossibility attaches . . . not to what is singular in the meanings to be combined, but to the essential *kinds*, the *meaning categories*, that they fall under. . . . The expression 'This tree is green' has unified meaning. If we formalize this meaning (the independent logical proposition) and proceed to the corresponding pure form of meaning, we obtain 'This S is p', an ideal form whose range of values consists solely of independent (propositional) meanings. . . . We cannot substitute any meanings we like for the variables 'S' and

'p'. Within the framework of our form we can change our example 'This tree is green' into 'This gold . . .', 'This algebraic number . . .', 'This blue raven etc., is green': any nominal material – in a wide sense of nominal material – can here be inserted, and so plainly can any adjectival material replace the 'p'. . . . Where nominal material stands, any nominal material can stand, but not adjectival, nor relational, nor completed propositional material. But where we have materials from such other categories, other material of the same kind can be put, i.e. always material from the same category and not from another. This holds of all meanings whatsoever, whatever the complexity of their form.

(326–7; 510–12, translation modified, emphasis in original)

The quotation demonstrates two things. The first is that Husserl is operating with a distinction (to be expounded upon) between form and matter. The second is that Husserl is far from using his theory of meaning categories to expose what have been called category mistakes. His example 'This algebraic number is green' is a clear example of what analytic philosophers have called a category mistake. But for Husserl it has a well-formed meaning, albeit one which he would consider synthetic a priori absurd. At the same time it demonstrates that when working with particular examples Husserl's categories are the traditional syntactic ones of noun, adjective, relative and sentence.

Modifications of meaning

One aspect of the laws of meaning which Husserl stresses and which has been often ignored is the possibility of regular kinds of meaning modification. Husserl mentions direct quotation or *suppositio materialis* (330; 513–14), when a word functions as a name of itself or, as I would say, when a word-token functions as a name of its own type; and he also mentions what we might call *concept quotation*, when a word (token) functions as a name of the concept it standardly expresses (331; 514). These are standard modifications available in all categories of quotable expression, and it is remarkable that Husserl does not note the similar standard meaning-shifts as discussed by Frege in his 'Über Sinn und Bedeutung', which we know Husserl had read (58; 292).

The other kind of modification Husserl mentions and which he also regards as universal is nominalization (333–4; 515–16). An expression of any category can be modified to yield a nominal expression: from the adjective 'green' we have the nouns 'green' and 'greenness', from the verb 'run' we have the gerund 'running', from the sentence 'Roger smokes' we have the that-clause 'that Roger smokes', and so on. The original meaning is thereby modified to a related nominal meaning. Husserl sees no great problem in this: it is simply a universal feature, and does not entail that every meaning is somehow nominal. Husserl just takes it for granted

that we can name anything we like by the use of such a meaning modification. To be nameable, then, is not for Husserl, as it is for Frege, a mark of thinghood. Husserl, unlike Frege (Frege 1967: 169; 1984: 184), sees no particular difficulty with the complex name 'the concept horse'. This merely names what is otherwise expressed predicatively by 'is a horse'. Husserl roundly declares that 'anything and everything can be objectified as a thing meant' (322; 507), i.e. anything at all can be named. If we are looking for a Frege-style account of what makes things different from their passive linguistic characters we might say that things can *only* be named, whereas other items can be both named and expressed otherwise. This relatively relaxed relation between linguistic and ontological categories in Husserl gives rise to fewer problems than the harmony thesis of Frege and early Wittgenstein to the effect that linguistic and ontological categories are perfectly aligned.

Dependent vs. independent meanings

The most important distinction observed by Husserl, and which gives its name to the *Fourth Investigation*, is that between dependent and independent meanings (314; 501). This is not a difference of category but a difference of types of category. An independent meaning is one which is fit to be the meaning of a single concrete act of intending something (311–12; 500):

we call a meaning 'independent' when it constitutes the whole, complete meaning of a concrete act of meaning, and 'dependent' when this is not the case.

(320; 506)

Husserl cites the meanings of nouns, more especially proper nouns, which he calls nominal meanings, as forming one of the two independent categories, and propositions, the meanings of complete declarative sentences, as forming the other. Names are 'the categorematic expressions of presentations' and statements (Aussagen) 'the categorematic expressions of judgements' (312: 500). Dependent meanings are dependent parts of meaning complexes: they cannot exist except as parts of their wholes. This characterization highlights a difficulty in Husserl's account. Consider a dependent meaning such as that of the connective 'unless'. It is relatively straightforward to understand how one can call the expression 'unless' dependent: the word used on its own is incomplete, fails to express a complete intention. It leaves us as it were gasping for the rest. If something else follows, such as 'Unless I finish this talk quickly there will be too little time for discussion', then the requirement for supplementation of which Husserl speaks is satisfied. I shall come back to this later. But if we are considering the ideal or abstract meaning of 'unless' it is not at all obvious that it cannot exist except as part of a more complex meaning. Abstract meanings, whether dependent or independent, do not form concrete or physical wholes, and it is unlikely that the meaning of a proper noun or sentence qua abstract meaning is any different in its existential status from that of any other abstract meaning. Husserl is a Platonist, and traditionally Platonic objects all exist necessarily, so there is no difference of existential status among them to allow the distinction between dependent and independent meanings to take a hold. All meanings exist in the same timeless way. Even though Husserl's meanings are species, he does not require species to have concrete instances in order to exist. Hence the distinction between dependent and independent objects does not apply directly to meanings.

However, precisely because meanings are species of aspects of concrete acts, we can rather easily see how to apply the distinctions Husserl has in mind to meanings. A meaning is independent if it is the species of aspects of acts of meaning which are such that some of them are the complete content of a whole act of intending, or if none are, some could be. A meaning is dependent if it is the species of aspects of acts of meaning none of which is or could be the complete content of an act of intending. It is the acts of meaning and their parts for which the question of existence in isolation versus existence only in the context of a larger act arises. Hence it is not the meanings themselves to which the opposition between dependence and independence applies but their actual and possible instances. A meaning is then (in)dependent if and only if its instances are (in)dependent. Notice also the asymmetry: all instances of dependent meanings are dependent parts, cannot and therefore do not exist in isolation; whereas only some instances of independent meanings actually exist in isolation, many of them are embedded in a context. Husserl would no doubt have said that such meanings are nevertheless such that they could have existed in isolation. I am doubtful: while it makes clear sense to say of an object such as a brick that it might have existed in isolation and not as part of a larger whole such as a house, even though it is in fact part of a house, this is because a brick is a continuant with a history. In the case of acts of meaning, which are mental events or parts of them, it is much less clear that we can meaningfully say of an act which is part of a larger whole that it, that very same act, could have existed without being part of its whole. In some cases we feel inclined to say so. I may see John and judge that he is wearing a new sweater. But God could strike me dead just after I start to judge, while I have only the subject of the thought in mind, just as he could strike me dead when starting to say the sentence. But this is also something that could happen to someone about to judge something with unless, so it is doubtful whether we have a clear-cut distinction. What I think we should say is that independent meanings are such that other acts of the same kind do exist in isolation, whereas dependent meanings are invariably such that acts of those kinds are partial. This relies on judging when two acts are of the same kind, and here it is much easier to rely on judgements about meaningful expressions than about acts of meaning. This

illustrates a general difficulty with Husserl's theory of dependence: that he is very cavalier about passing from species to instances and back again, and as a result his distinctions do not carry across with the ease he thinks they do (Simons 1982: 123; 1987: 303, 317). The reason is that Husserl is concerned mainly with essential characters, and these refer to invariances across whole populations, of meanings or other entities, and not directly at the level of instances.

Husserl's theory of dependent and independent meanings is clearly doing much the same sort of work as Frege's distinction between saturated and unsaturated expressions (cf. Simons 1981), and in his later logical essays Frege uses very similar terminology of part, whole and supplementation to characterize (un)saturatedness (cf. Frege 1967: 375, 378; 1984: 386, 390). Husserl's theory, with the necessary modifications, in fact brings a larger array of ontological tools to the task of understanding the nature of the distinction between saturatedness and unsaturatedness than does Frege's, in which the distinction remains an unexpanded metaphor. In terms of actual practice, exploiting and using the distinction, Frege is on the other hand significantly ahead of Husserl, since he employs the distinction consistently throughout the construction of his later logical language of *Grundgesetze der Arithmetik*. It was to be the marriage of these two, Husserl's theory and Frege's practice, which led to the development of categorial grammar.

Husserl's immediate use of the dependent/independent distinction is twofold. First, he illustrates en passant (311–24; 499–514) various dependent meaning categories. Husserl's examples include adjectives, verbs, adverbs, conjunctions, prepositions, the genitive of a noun, in both words and phrases. Second, he uses it to rethink the scholastic distinction between categorematic and syncategorematic expressions (310ff.; 499ff.). In medieval logic an expression was categorematic if it could be a term in a proposition. The expression derives from the fact that for Aristotle every term falls into a category (substance, quantity etc.). An expression is syncategorematic if it has no categorial meaning of its own but goes to help make up a proposition; so elements of form such as the copula, connectives, quantifiers like 'all' and 'some', are syncategorematic. No question arises as to what such expressions stand for, since only terms have appellation and supposition. Syncategoremata are con-notative, *mitbedeutend*, not de-notative, *bedeutend*. Husserl's distinction allows him to let all meaningful expressions have a meaning: so-called syncategoremata simply have dependent rather than independent meanings. This theory is much closer to that of Frege and to modern grammar than it is to the Scholastics.

Form and matter in meaning

As we saw from the previous long quotation, Husserl retained a distinction between formal and material elements of meaning. In the sentence

This tree is green

the expressions 'tree' and 'green' carry semantic matter, whereas 'this' and 'is' are formal elements. The complete formalization of the sentence is according to Husserl 'This S is p' (327; 511). Though this distinction is traditional, Husserl is here failing to take advantage of his own insight on dependent vs. independent meanings. As the example stands, neither 'this' nor 'is' is formal, the reason being that both stand in opposition classes: 'This tree is green' contrasts with 'That tree was green' just as much as it contrasts with 'This raven is black'. The logician gets the better of the grammarian here. The true form of the sentence is therefore something like DScp where D is a variable for determiners and c a variable for copulae (i.e. expressions which form an intransitive verb phrase from a nominal or an adjectival phrase).

But there is a genuine distinction in the place where Husserl purports to find one, and it is often called by names closely associated with those of form and matter. It is the distinction between *open* or unrestricted substitution classes like nouns, verbs, adjectives and adverbs, versus *closed* or (better) restricted substitution classes like demonstratives, pronouns, tenses, modals and the like (Lyons 1968: 436). The distinction is neither sharp nor hard and fast, for some modals like 'it is 45 percent likely that' belong to theoretically infinite classes, and even forms such as prepositions and conjunctions belong to admittedly small but not obviously closed classes.

Husserl's interest in making a form/matter distinction is closely connected with his strategic aim in the book of providing a philosophical foundation for pure logic. It is important for him to distinguish between formal and material aspects of meaning because the distinction between laws of logic and other laws turns on it. Like his mentor Bolzano (and everyone else before Tarski 1986), Husserl lacks a clear criterion for distinguishing logical from non-logical elements of a proposition, but he was quite sure that such a distinction exists.

Any dependent meaning category may be considered formative in the sense that an expression of that category requires supplementation if a complete meaning is to result, and therefore calls for other supplementary expressions. But even an independent meaning category is formative in the sense that such an expression is capable of combining with those dependent meaning categories which call for it.

I conclude that Husserl's largely implicit distinction between formal and material aspects of meaning and meaning categories lies athwart and is potentially antithetical to his distinction between dependent and independent meaning categories. Nevertheless the issue of how complex expressions and complex meanings are formed and the relation of this issue to the dependent/independent distinction raises a theoretical issue which is worth pursuing for its own sake.

Two senses of 'incomplete'

Husserl's characterization of the meaning of particles, connectives, quantifiers etc. as dependent leaves him with a difficulty. If a word such as 'unless' has a dependent meaning, how are we able to understand it in isolation? Surely it can only be understood when occurring with other meanings, since such a meaning is said not to be able to exist in isolation. His answers are unconvincing:

A syncategorematic expression torn from context either has not got the meaning it has in categorematic contexts, or it has got it, but has also undergone a *completion of meaning* quite indefinite in content.

(324; 509)

It is true that isolated syncategoremata such as, to use Husserl's own examples, 'equals', 'together with', 'and', 'or', give a greater impression of needing completion than complete sentences or names, and there is something behind this which needs to be reflected in theory. But Husserl's way out is a fudge: speaking for myself, when I hear a word or expression which is not complete I detect introspectively neither the metalinguistic shift of meaning nor the tacit indefinite completion that Husserl describes. The difficulty calls for another solution.

To approach it let us move briefly away from Husserl to Frege, whose practice of distinguishing saturated from unsaturated expressions was mentioned before. In his use of functional or unsaturated expressions Frege is very careful: he always makes sure that an unsaturated expression is accompanied by its brackets and by either actual or dummy argument expressions; a function letter is never quoted in isolation. This has led to a dispute between the Frege commentators Michael Dummett and Peter Geach as to what an unsaturated expression is. Geach takes the line, which is textually supported by Frege's own practice, that an unsaturated expression is not itself a detachable, quotable chunk of prose but a *pattern* (Geach 1975: 147). For example in the sentences

Cato killed Cato
Brutus killed Brutus
Anthony killed Anthony

we detect the same pattern, and simply quoting the verb 'killed' fails to give it. What we need is to adopt Frege's practice of using dummy variables to talk about functions and *exhibit* (not quote) the pattern in the name for the expression form:

This use of dummy variables is very close to Husserl's idea of indefinite completion. Geach further argues that Frege's functions are obtained from complete expressions by the process of 'knocking out' arguments or 'considering certain parts as fixed and others as variable'; this certainly corresponds to Frege's practice and his description of what he is doing, as exemplified by his insistence on carrying around argument-places with function expressions even where these are not actually filled.

Dummett accepts the general point about the possibility of obtaining functional expressions by 'knocking out' arguments, but points out that the complete expressions at the basis of this constructive process have first to be put together, so that some simple function expressions (he calls them 'simple predicates') have to be exhibitible in isolation, such as the *word* 'killed', which requires completion with two noun phrases to yield a simple sentence (Dummett 1973: 27ff.). And Dummett seems to be right about this. There is even a place in Frege's language where he does exhibit functional variables in isolation, namely when they stand over the concavity of a universal quantifier. If they can do so there without ambiguity or grammatical distress then they (and other non-complex functional signs) can do so elsewhere. We merely need to know how they would need to be completed when standing in relevant contexts.

Geach counters that it is not the *word* 'killed' that expresses the function, but the whole pattern NP + killed + NP, and *that* cannot be exhibited in isolation. So it seems we reach a stalemate. The resolution is to realize that there are two senses of 'incomplete' which are being confused, and that by separating them we can make important progress.

What gives us even the simplest sentences like 'Roger smokes' is not just that we have a token of 'Roger' and a token of 'smokes' but that we have a token of 'Roger' followed immediately by a token of 'smokes'. We get the complex due to the relationship between the two tokens. In the Tractatus Wittgenstein said that it was not a complex object which was a sentence but the fact that certain signs stood in a certain relation to one another that expressed a proposition (Wittgenstein 1961: 3.1432). Wittgenstein is wrong to call a sentence a fact – a sentence is a complex object; this mistake is part and parcel of Wittgenstein's wider confusion over facts and complexes, but he has nevertheless pointed to something important. What gives us the complex whole is not just the parts but the parts in certain relations to one another, such as that of one's immediately following another. You may call these relationships 'facts', though I would not, but at any rate they are constitutive of the complex whole; without their existing or obtaining we should have only a jumble – Wittgenstein would say a medley (Wittgenstein 1961: 3.141), Husserl a heap – of individual expressions. Here is another thing about which Wittgenstein is right. To express a proposition you do not need a separate bit which is unsaturated, a verb or predicate. You can have names in some immediate relation (Wittgenstein 1961: 4.22 – he says 'concatenation', but that is just one

case). Provided we have enough kinds of relation we can express lots of simple propositions without verbs. In fact standard spoken and written language are very sparing in their use of such structural relations, and many grammarians seem to think there is only one, namely immediate succession or concatenation, but even if that is true it is an accidental feature. Wittgenstein, like Husserl, with his eye firmly on the essential, denies that a predicate needs to use a verb. A verbless sentence (there are some in some languages anyway) expresses something semantically by a mere syntactic arrangement. And in a graphical language the possibilities for forming verbless sentences are of course much greater than in spoken language or its written transcription.

So a Fregean predicate like $F(\xi, \zeta)$ is from this point of view a hybrid (Simons 1981: 91): it consists of a detachable chunk 'F' carrying a meaning, together with other auxiliary detachable chunks, namely parentheses and a comma, which do not carry a meaning but help to build up a whole. But the unsaturated, non-isolable predicate is constituted as a whole in any given context by a serial concatenation:

 $F(\langle name \rangle, \langle name \rangle)$.

The auxiliaries are in a suitable notation dispensable (as in Łukasiewicz's notation for logic) but the fact of concatenation or immediate succession remains. In languages formed in other ways, such as Frege's conceptnotation, or in mathematical or chemical notations, other structural elements hold sway, but we need *some* such structural elements come what may. Now all this is independent of the question whether a certain expression is complete or incomplete. Qua quotable chunk, the letter 'F' or indeed the left parenthesis '(' is as complete as can be, as complete as any name, whereas you cannot quote a concatenation or a superscription. It is these which are the genuinely formative aspects of a complex expression, and they are for the most part unashamedly spatio-temporal, not abstract.

Now let us return to the Geach–Dummett dispute. When Geach says that all predicates are patterns and Dummett says that some are quotable expressions they are using the term 'predicate' (more generally, 'function') in different ways and are talking past each other. A predicate, *pace* Geach, can exist and be quoted on its own, where by 'predicate' we are talking about an *expression* of a certain kind, such as a verb. A predicate variable, quantified, is quite happy on its own away from its accoutrements of parentheses or whatever. However, when a predicate is functioning *as* a predicate, doing what comes most naturally to it, it has to do it in the company of other expressions and they have to form a somehow structured whole. It would be wrong, then, to paraphrase Frege and say that an incomplete expression *only* has meaning in the context of a sentence or other complete whole, but it would also be wrong to say that the kind of meaning it has is independent of its typical place in such wholes.

Let us call an isolably quotable expression which is not a name, sentence or other undefined syntactic primitive functorial, and by contrast an expression-frame or pattern unsaturated. Let us call an expression which belongs to one of the primitive, non-functorial categories (name, sentence etc.) perseic. Any such expression will also be saturated. So the opposite of 'saturated' is 'unsaturated' but the opposite of 'functorial' is 'perseic'. A simple predicate like 'smokes' is thus saturated but functorial, a name or sentence is both saturated and perseic, and a pattern is unsaturated. (No expression is perseic and unsaturated but perhaps some linguistic features such as English tense morphemes are.) Geach and Dummett disagree because by 'incomplete' Geach means 'unsaturated', whereas Dummett means 'functorial' for simple predicates and 'unsaturated' for complex predicates. Husserl's explanation of dependence as inability to exist alone fits unsaturatedness, but the examples of expressions he uses are of functorial expressions. Hence he is driven to his desperate explanation of how we can understand isolated dependent expressions.

We shall see below that the confusion of functoriality, which is a grammatical feature of expressions, with unsaturatedness, which is a physicostructural feature of expression-frames or patterns, is also perpetuated in categorial grammar and consequently weakens its appeal.

Let me iron out a final small wrinkle. When we are talking about patterns as unsaturated and when we are understanding unsaturatedness as inability to exist in isolation, we are strictly speaking making a mistake. It is characteristic of a pattern like ' $F(\xi, \zeta)$ ' or ' ζ killed ζ ' that once it is saturated by suitable arguments we obtain a saturated or complete whole expression, such as 'F(a, b)' or 'Cato killed Cato'. Some patterns require single saturation, others double saturation and so on. But the predicate ' $F(\xi, \zeta)$ ' remains unsaturated no matter how often we saturate it, because otherwise it would not be a predicate. How then can a predicate be so insatiable? The answer lies in dispelling a confusion of instance with kind or token with type. It is not the predicate qua type that gets saturated, but this or that token of it. The predicate qua token, being a pattern, cannot exist in isolation. The predicate qua type is unsaturated in that no token of it can exist alone. Any expression qua type is such that it may have tokens that exist in isolation, and in this sense every expression, whether functorial or complete, is saturated. This applies to verbs and the word unless just as much as to sentences and names. The basic account has to start with tokens. To try to use types alone leads to regress, because the type sentence 'Cato killed Cato' would have to contain two occurrences of the type name 'Cato', but then types would have types as tokens, and so on. Types inherit a modified notion of unsaturatedness from their tokens. Notice that this entails speaking of tokens of patterns, i.e. individual items which cannot exist in isolation. To a Husserlian raised on a diet of dependent parts, this is no hardship. So we should say that a pattern type is unsaturated in so far as all its instances are dependent. That is the link (cf. Simons 1983).

The connection between functoriality and unsaturatedness is then more subtle. Functorial expressions, unlike perseic expressions, typically occur in connection with other expressions in a more complex whole, and the general syntactic patterns such wholes exhibit determine the functorial category of the functor. One may describe these patterns at a more detailed and fussy language-specific level or in a more invariant way, abstracting from what Słupecki has called the *calligraphy* of a language.

Husserl's legacy

The next step on the road from Husserl's rather sketchy remarks to what we now call categorial grammar came through the cross-fertilization of the influences of both Frege and Husserl in the work of Leśniewski. Leśniewski had read and admired Husserl as a young man (Leśniewski 1992: 181), but he later repudiated his adherence to what he called the Austrian school of Husserl and Marty (1992: 198), and as a logician he admired Frege above all, most especially for Frege's precision (1992: 177). However, even Frege had not expounded his metalogic to the standard of precision Leśniewski required for his own system, and so Leśniewski was led to employ the notion of a semantic category, which he says he derived from Husserl's notion of a meaning category as well as from the Whitehead-Russell theory of types (1992: 421–2). Nearly every meaningful expression in Leśniewski's logic (all expressions are tokens for him) belongs to a semantic category, and he describes these functorially in terms of what arguments they take and what category the resulting wholes are. Unlike Frege, Leśniewski is quite happy to let functors wander off on their own without arguments (when they are themselves arguments as well as when quantified). There is only one exception to Leśniewski's rule that all meaningful expressions have a category (he does not call parentheses and other punctuations meaningful, though he does regard them as words and as expressions). The exception is the universal quantifier, to which he does not assign a category, instead regarding it as syncategorematic. The reason is that all expressions apart from the universal quantifier and punctuation belong either to a category occurring in the axioms or to one whose expressions are introduced by definition. Leśniewski gives precise criteria for definitional introduction for any primitive or any functor category, but in the case of variable binders like the universal quantifier he found himself unable to formulate such criteria, and so was led to treat the universal quantifier as an exceptional, syncategorematic device. In his notation it is marked only by punctuation (special corners enclosing any number of variables from any mixture of categories), and is not given its own separate symbol.

Leśniewski uses the term 'semantic category' ('semantische Kategorie' in the original: Leśniewski 1929: 14; 1992: 421) not because he is classifying meanings but because he is classifying meaningful expressions. But his word-classes are effectively syntactic, being defined in terms of their

simplest co-occurrence relations and in terms of intersubstitutability. When Leśniewski's contemporary Kazimierz Ajdukiewicz came to study the grammar of the categories in 1934–5 he continued to employ Husserl's term Bedeutungskategorie but named the condition of being grammatically well-formed syntaktische Konnexität, 'syntactic connectedness' (Ajdukiewicz 1935). Ajdukiewicz's main achievement in this paper was the development of a clear set of rules governing how functors and their arguments combine, and a perspicuous notation for the categories, the quotient notation. Ajdukiewicz tried and conspicuously failed to find a grammatical account of variable binders, but he did note, quite rightly, that one could make do with just one such binder, which following Russell he wrote using a circumflex, but which we would now write (following Church) using lambda (λ). Every operator except lambdas themselves can be considered the product of a functor and a lambda abstraction. Alonzo Church's notation for logical types is in effect a system of notation for a categorial grammar (Church 1940). In a sense this returns the compliment to Leśniewski, whose idea of semantic categories was a conscious revision of and replacement for a simple theory of types. Whereas Church saw types as a hierarchy of ontological categories, Leśniewski saw expressions of different types as merely of different grammatical category. Each then resolved an ambiguity in Russell, but in opposite directions.

The next step in categorial grammar came in 1953 when Yehoshua Bar-Hillel started applying it to natural languages and taking account of the distinction between left- and right-completion (Bar-Hillel 1953). The rules for reducing or finding the category of a complex expression from the categories of its parts were compared by Johann Lambek in 1958 to inference rules in logic, and Lambek's work inaugurated the algebraic treatment of categorial grammars (Lambek 1958). These had little impact on logic or linguistics, however, until the 1970s, when Richard Montague (1973), Peter Geach (1970), David Lewis (1970), Timothy Potts (1973) and others began to use them. What we see in Montague is the coupling of the grammar with a model-theoretic semantics staying fairly close to the composition rules for the syntax. Montague and Geach introduce certain raising or derived category rules which allow expressions to have more than one category, depending on context, though derived in regular ways from their ground category. This helps to make syntactic descriptions of naturallanguage phenomena more adequate. Most linguists and logicians still somewhat unaccountably fight rather shy of categorial grammar. One reason for their reluctance may be that the directional variant introduced by Bar-Hillel, and algebraicized by Lambek and others, focuses attention on a rather limited set of syntactic building principles: it remains too close to the superficially linear form of most natural languages. Another reason is certainly that in the artificially truncated context of first-order logic and rather simple parts of natural languages there is little point in the complexity. In higher-order logics and computer languages, especially typed

languages, the scheme begins to be more interesting, but again here concatenation tends to obtrude, and the tradition of expressing the syntax of computer languages in Backus–Naur Form, which is based on concatenation, is strong. There are of course good pragmatic reasons for the pre-eminence of linearity in both natural languages and computer code: information organized sequentially demands only a single (serial) mode and channel of transmission; but every language depends on more than just sequence in order to represent different meanings.

The problem which in various ways stumped or stalled Frege, Leśniewski and Ajdukiewicz, namely how to deal with variable-binding operators, has, despite several attempts, remained unresolved in categorial grammar. This is of little import for natural languages whose mechanisms of scope marking and manipulation resemble combinatory logic much more than a lambda calculus, but it does mean that there is no adequate grammatical account of logic or mathematics in its entirety. To provide such an account one must go beyond the opposition between functor and complete categories and introduce operator categories and a whole new descriptive framework for describing variable binding (Simons: forthcoming).

The semantics deemed appropriate for categorial languages has been markedly other than that envisaged by Husserl or indeed to a large extent by Frege. While some like Montague have exploited functions, for the most part the formal semantics for categorial languages is only superficially functional: in reality it is applied set theory. A more suitably matching formal semantics might exploit the resources of mathematical category theory (Lambek 1988). I would like to stress that this approach, like the set-theoretical one, would tell us little about the way meaning works in natural languages.

Finally, categorial grammar has largely failed to distinguish between the two senses of 'incomplete', namely 'functorial' and 'unsaturated', and has tended to run them together, so that its syntactic descriptions, while often elegant and attractive for simple cases, run into difficulties over such natural-language phenomena as ellipsis, movement, separable verbs, portmanteau expressions, phrasal verbs, inflection, tenses, and more. As a tool for describing syntax it seems to function most readily for formal calculi; as a tool for natural-language syntax it seems to be less than the whole story, rather a partial framework (comparable with phrase-structure grammar) for more detailed language-by-language investigations. As a tool for describing the tactics of meaning, as Husserl envisaged, it remains wholly untried.

Notes

To save space, references to the *Logische Untersuchungen* and its English translation *Logical Investigations* are given as follows. A pair of numbers or number ranges in parentheses, separated by a semi-colon, such as (337; 518), indicate a

- reference to a page (337) of Volume II Part I of *Logische Untersuchungen* in the 1984 Nijhoff *Husserliana* edition edited by U. Panzer, or its reprint as Volume 3 of the *Gesammelte Schriften* edited by E. Ströker in the Meiner edition, and to the corresponding page (518) of the 1970/2000 Findlay translation. Where other volumes of the German edition (Volume I or Volume II Part II) are cited, this will be indicated. Other works are referred to by author and date in the standard fashion.
- 2 Too much should not be read into this, however: expressions like 'to grasp an idea' (einen Gedanken (er)fassen) are quite idiomatic in both English and German and hardly metaphysically laden. The problem is not the expression, but the relation itself.
- 3 Husserl deplores the fact that 'Modern grammar thinks it should build exclusively on psychology and the other empirical sciences' (302; 493).
- 4 The difference is, however, less drastic than this suggests, because the basis of Marty's analysis of linguistic functions is Brentano's *descriptive* psychology, which is a priori rather than empirical.
- 5 The Appendix to Formal and Transcendental Logic (loc. cit.) shows greater awareness of the issue.

References

- Ajdukiewicz, K. (1935) 'Die syntaktische Konnexität', *Studia Philosophica* 1: 1–27. Reprinted in D. Pearce and J. Wolenski (eds) *Logischer Rationalismus*, Frankfurt/ Main: Athenäum, 1988: 207–26. English translation: 'Syntactic Connection', in S. McCall (ed.) *Polish Logic, 1920–1939*, Oxford: Clarendon Press, 1967: 207–31. Reprinted in Adjukiewicz, *The Scientific World-Perspective and Other Essays, 1931–1963*, Dordrecht: Reidel, 1978: 118–39.
- Bar-Hillel, Y. (1953) 'A Quasi-Arithmetical Notation for Syntactic Description', *Language* 29: 47–58, reprinted in Bar-Hillel, *Language and Information*, Reading: Addison-Wesley, 1964: 61–74.
- Bolzano, B. (1935) *Der Briefwechsel B. Bolzano's mit F. Exner*, Prague: Königliche Böhmische Gesellschaft der Wissenschaften.
- ——— (1987) Wissenschaftslehre §§ 121–63, Stuttgart: Frommann–Holzboog.
- Church, A. (1940) 'A Formulation of the Simple Theory of Types', *Journal of Symbolic Logic* 5: 56–68.
- Dummett, M. A. E. (1973) *Frege: Philosophy of Language*, London: Duckworth. Frege, G. (1967) *Kleine Schriften*, ed. I. Angelelli, Hildesheim: Olms, and Darmstadt:
- Frege, G. (1967) Kleine Schriften, ed. I. Angelelli, Hildesheim: Olms, and Darmstadt: Wissenschaftliche Buchgesellschaft.
- (1984) Collected Papers on Mathematics, Logic, and Philosophy, Oxford: Blackwell.
- Geach, P. T. (1970) 'A Program for Syntax', *Synthese* 22: 3–17. Reprinted in D. Davidson and G. Harman (eds) *Semantics for Natural Language*, Dordrecht: Reidel, 1972: 483–97, and in W. Buszkowski, W. Marciszewski and J. van Benthem (eds) *Categorial Grammar*, Amsterdam: Benjamins, 1988: 127–40.
- ——— (1975) 'Names and Identity', in S. Guttenplan (ed.) *Mind and Language*, Oxford: Clarendon Press: 139–58.
- Husserl, E. (1969) *Formal and Transcendental Logic*, trans. by D. Cairns, The Hague: Nijhoff.

- (1970) Logical Investigations, trans. by J. N. Findlay, London: Routledge & Kegan Paul. In two volumes with continuous pagination. 2nd edn. edited by D. Moran, London: Routledge, 2000.
- ——— (1974) Formale und transzendentale Logik, ed. Paul Janssen, The Hague: Nijhoff (= Husserliana XVII). Reprinted as volume 7 of Husserl 1992.
- ——— (1984) *Logische Untersuchungen*. Zweiter Band, ed. U. Panzer. In two parts. The Hague: Nijhoff (= *Husserliana* XIX/1–2). Reprinted as volumes 3–4 of Husserl 1992.
- (1992) Gesammelte Schriften, ed. E. Ströker, 10 volumes, Hamburg: Meiner. Lamb, S. M. (1966) Outline of Stratificational Grammar, Washington: Georgetown University Press.
- Lambek, J. (1958) 'The Mathematics of Sentence Structure', *American Mathematical Monthly* 65: 154–70. Reprinted in W. Buszkowski, W. Marciszewski and J. van Benthem (eds) *Categorial Grammar*, Amsterdam: Benjamins, 1988: 153–72.
- ——— (1988) 'Categorial and Categorical Grammars', in R. Oehrle, E. Bach and D. Wheeler (eds) *Categorial Grammars and Natural Language Structures*, Dordrecht: Reidel: 297–317.
- Leśniewski, S. (1929) 'Grundzüge eines neuen Systems der Grundlagen der Mathematik', *Fundamenta Mathematicae* 14: 1–81. English translation in Leśniewski (1992): 177–98, 401–91.
- (1992) Collected Works, 2 vols, Dordrecht: Kluwer.
- Lewis, D. (1970) 'General Semantics', *Synthese* 22: 18–67. Reprinted in D. Davidson and G. Harman (eds) *Semantics of Natural Language*, Dordrecht: Reidel, 1972: 169–218.
- Lyons, J. (1968) *Introduction to Theoretical Linguistics*, Cambridge: Cambridge University Press.
- Marty, A. (1908) Untersuchungen zur Grundlegung der allgemeinen Grammatik und Sprachphilosophie, Halle: Niemeyer. Reprinted Hildesheim: Olms, 1976.
- Montague, R. (1973) 'The Proper Treatment of Quantification in Ordinary English', in J. Hintikka, J. Moravcsik and P. Suppes (eds) *Approaches to Natural Language*, Dordrecht: Reidel, 221–42. Reprinted in Montague, *Formal Philosophy*, New Haven: Yale University Press, 1974: 247–70.
- Potts, T. C. (1973) 'Fregean Categorial Grammar', in R. J. Bogdan and I. Niiniluoto (eds) *Logic, Language and Probability*, Dordrecht: Reidel: 245–84.
- ——— (1983) 'Function and Predicate', Conceptus 17: 75–89.
- ——— (1987) Parts: A Study in Ontology, Oxford: Clarendon Press.
- (1995) 'Meaning and Language', in B. Smith and D. W. Smith (eds) *The Cambridge Companion to Husserl*, Cambridge: Cambridge University Press: 106–37.
- —— (forthcoming) 'Languages with Variable-Binding Operators: Categorial Syntax and Combinatorial Semantics', in J. Jadacki (ed.) *The Lvov–Warsaw School: New Generation*.
- Tarski, A. (1986) 'What are Logical Notions?', *History and Philosophy of Logic* 7: 143–54.
- Wittgenstein, L. (1961) *Tractatus Logico-Philosophicus*, transl. D. F. Pears and B. F. McGuinness. London: Routledge & Kegan Paul.

3 Logical form, general sentences, and Russell's path to 'On Denoting'

James Levine

It was Russell who performed the service of showing that the apparent logical form of a sentence need not be its real one.

Wittgenstein (1922: 4.0031)

Introduction

My purpose in this paper is to clarify Russell's understanding of two distinctions, both of which are central to his 1905 paper 'On Denoting' (*OD*): first, the distinction between the 'surface' or 'grammatical' form of a sentence and its underlying 'logical' form; second, the distinction between general sentences and atomic sentences.

Russell's theory of definite descriptions, which he introduced in *OD*, is often presented as a classic example of a theory according to which the surface form of a sentence differs from its logical form.¹ For Peter Hylton, *OD* does not merely rely on a distinction between surface form and logical form; it also marks the first occasion on which Russell employs such a distinction:

With [OD, Russell] begins to develop a conception of analysis according to which the logical form of the sentences involved is crucial. Analysis, on this conception, will typically lead to a sentence of a quite different logical form from that with which we began, and the chief task of analysis is that of finding the underlying logical form of the proposition, a logical form which may be masked by the sentence expressing the proposition. This is in contrast to Russell's earlier conception of analysis

(1990: 267f.; see also 1989: 98f.)

One account – articulated very clearly by Stephen Neale – of how the distinction between grammatical and logical form figures in *OD* depends upon assuming a prior distinction between general and atomic sentences. Atomic sentences consist of singular terms (in Neale's terminology,

'referring expressions') together with predicates or relational expressions; they are of such forms as 'Fa' or 'R (a, b)', where 'a' and 'b' are singular terms, 'F' a predicate, and 'R' a relational expression. General sentences, on the other hand, consist of phrases of such forms as 'some F' or 'every F' (in Neale's terminology, 'quantified noun phrases') together with predicates or relational expressions; they are of such forms as 'Some F is G', 'Every F is G'. For Neale, the central claim of Russell's theory of descriptions is that definite descriptions – that is, phrases of the form 'the F' – are not singular terms and hence that sentences of the form 'The F is G' are general, not atomic, sentences. Thus Neale writes

The main claim [of the theory of descriptions] is that a phrase of the form 'the F' is not a genuine referring expression. . . . Frege had provided an intuitive distinction between referring expressions ('names' as he called them) and quantified noun phrases; but according to Russell, Frege's classification was in need of one important and farreaching revision: definite descriptions belong with the quantified phrases not with the referring expressions.

(1990: 20f.)

And again,

If one does not see that on Russell's account 'the F is G' expresses a general proposition, that 'the F' does not refer, one simply does not understand the theory.

(1993: 106)

On this account of the theory of descriptions, there is a clear sense in which it involves a distinction between surface form and logical form. For if one accepts as 'intuitive' a distinction between general and atomic sentences, and if one holds that sentences of the form 'The F is G' appear to be atomic, not general, then, by Russell's theory, the apparent or surface form of 'The F is G' is not its real or logical form.² Although sentences of the form 'The F is G' appear to be atomic, they are really general.

In this paper I argue, against Hylton, that prior to OD Russell recognizes cases in which the surface form of a sentence differs from its logical form. I further argue, against Neale, that for Russell the claim that sentences of the form 'The F is G' are general rather than atomic is not a new or distinctive claim in OD, since Russell had already accepted that claim in his earlier theory of denoting concepts. However, I argue as well that problems with the theory of denoting concepts led Russell in OD to adopt a new theory of general sentences; and from this new account of general sentences (including those of the form 'The F is G'), a new sort of philosophical analysis emerged and with it a new sort of case in which the surface form of a sentence differs from its logical form.

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In order to develop these claims, I distinguish three periods in Russell's post-idealist development: first, the period from the end of 1898 through to August 1900 in which, influenced by G. E. Moore, Russell develops a position opposed to his early idealism; second, the period from August 1900, when Russell meets Peano in Paris at the International Congress of Philosophy, until the composition of *OD* in June 1905; and third, the period from *OD* until 1912.³ In the first of these periods, Russell writes *The Philosophy of Leibniz (PoL)* as well as a complete draft of *The Principles of Mathematics (PoM)*; in the second, he accepts Cantor's theory of the transfinite, discovers his paradox, becomes a logicist, introduces the theory of denoting concepts, and rewrites and completes *PoM*; in the third, he settles on his theory of types, completes, with Whitehead, *Principia Mathematica (PM)*, and writes a number of papers stating his overall philosophical position.

In this paper I defend four central claims: first, that well before OD – in fact, as early as his Moorean period – and independently of any concern to give an account of general sentences, Russell recognizes cases in which the logical form of a sentence differs from its surface form; second, that while Russell's post-Peano denoting-concept account of general sentences involves significant departures from his Moorean account of propositions, it does not involve the view that the logical form of a general sentence differs from its surface form; third, that given certain basic commitments to which he adheres continuously, Russell has good reasons for rejecting the theory of denoting concepts; and, fourth, that in order to avoid the problems facing the theory of denoting concepts, Russell's account of general sentences in OD and thereafter involves him in recognizing a new sort of case in which the surface form of a sentence differs from its logical form.

Analysis and logical form prior to 'On Denoting'

My discussion here is in three sections. In the first, I introduce general features of Russell's Moorean conception of analysis, and I state conditions which, on that conception of analysis, need to be fulfilled in order for the surface form of a sentence to differ from its logical form. In the second and third sections, I argue that in both his pre-Peano Moorean period and his post-Peano pre-*OD* period Russell recognizes cases which fulfil these conditions.

Some general considerations

Russell's Moorean conception of analysis is closely tied to his views on the symbolic functions of words and of sentences. In particular, the Moorean Russell accepts

(1) The meaning of a word is the entity designated by that word

and

(2) The entity designated by a word is either (metaphysically) simple or complex,

writing, for example, in 1899,

It will be admitted that a term cannot be usefully employed unless it means something. What it means is either complex or simple. That is to say, the meaning is either a compound of other meanings, or it is itself one of those ultimate constituents out of which other meanings are built up. In the former case, the term is philosophically defined by enumerating its simple constituents. But when it is itself simple, no philosophical definition is possible.

(1899b: 410)

Further, Russell also accepts

(3) The proposition expressed by a sentence has as its constituents the entities designated by the words in that sentence.

As he writes in *PoM* (expressing what I take also to be his Moorean view),

Words all have meaning, in the simple sense that they are symbols which stand for something other than themselves. But a proposition, unless it happens to be linguistic, does not itself contain words: it contains the entities indicated by words.

(1903a: 47)

In accepting (1)–(3), Russell holds that each sentence expresses a proposition which admits of a unique decomposition into its ultimate simple constituents.⁴ And, given this view, Russell recognizes a distinction between those sentences which are fully transparent representations of the propositions they express (are 'fully transparent', for short) and those which are not. In particular, Russell accepts

(TR) Sentence S is fully transparent if and only if each word in S is indefinable – that is, stands for a simple constituent of the proposition which S expresses.

Thus, for Russell, if S is fully transparent, there will be exactly as many words in S as there are ultimate constituents in the proposition it expresses. If S is not fully transparent, there will be at least one definable word in S – at least one word which stands for a complex entity. To transform a sentence S which is not fully transparent into a fully transparent

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representation of the proposition expressed by *S* (a 'full analysis' of *S*, for short) one must replace each definable word in *S* by its definition expressed in terms of indefinable words — words which stand for 'those ultimate constituents out of which other meanings are built up'.⁵

The distinction between logical form and surface form results from Russell's views concerning the different constituents of propositions and sentences. First, Russell accepts

(4) Each proposition expressed consists of those entities which the proposition is about together with what is being attributed by that proposition to those entities.

The entities which a proposition is about are, for Russell, the 'logical subjects', or 'terms', of that proposition; what is being attributed to those logical subjects are relations or predicates – for Russell, logical 'verbs'. A non-compound proposition contains only one verb; compound propositions contain more.

For Russell, the logical form of a proposition is determined by its verbs; for the verbs determine how many logical subjects that proposition contains and (if there are any type distinctions among subjects⁷) what sorts of entity those logical subjects are. Verbs are of the same kind if and only if they take exactly the same number of logical subjects and take logical subjects of the same type (in respective subject positions). Thus, Russell accepts

(LF) Propositions P_1 and P_2 have the same logical form if and only if they contain exactly the same number and kinds of verbs.

If predicates are verbs, then there are propositions which consist of a single verb (a predicate) and a single logical subject. The Moorean Russell holds that all verbs are relations; consequently, he holds that each proposition consists of at least two logical subjects and a relation. More generally, he holds that 'the classification of relations is . . . the classification of the types of proposition' (1899a: 145). In accord with (LF), that is, he holds that if we know what kinds of relation (i.e. what kinds of verb) there are in a given proposition, we thereby know the form, or type, or structure, of that proposition. Given that there is a unique decomposition of each proposition into its simple constituents, including its simple relations, each proposition has a unique logical form.

Just as Russell distinguishes logical subjects from logical verbs within a proposition, so too he distinguishes grammatical subjects from grammatical verbs within a sentence. And just as the verbs in a proposition determine the logical form of that proposition, so too the grammatical verbs in a sentence determine the grammatical form of that sentence. Thus we have

(GF) Sentences S_1 and S_2 have the same grammatical form if and only if they have the same number and kinds of grammatical verbs,

where grammatical verbs are of the same kind if and only if they take the same number and type of grammatical subjects. To determine whether the grammatical form of a sentence S is the same as its logical form, we can compare the grammatical form of S with the grammatical form of a sentence which gives the full analysis of S. In particular we have:

(GF)/(LF) The grammatical form of sentence S is the same as its logical form if and only if the grammatical form of S is the same as that of a sentence which gives the full analysis of S.

Thus if a sentence is fully transparent, its logical form will be the same as its grammatical form. But if a sentence is not fully transparent, its logical form may or may not be the same as its grammatical form. In particular, the logical form of S will be different from its grammatical form if (and only if) the full analysis of S involves grammatical structure – either a new verb or a verb of a different kind – which is not present in S.

Further, the Moorean Russell accepts

(SUBJ) The sole contribution of a grammatical subject to a proposition it helps to express is a logical subject,

as well as

(VERB) The sole contribution of a grammatical verb to a proposition it helps to express is a logical verb.

By (SUBJ) along with (2), a grammatical subject of a sentence may stand for a simple or complex logical subject; by (VERB) along with (2), a verb of a sentence may stand for a simple or complex relation. If either a grammatical subject or a grammatical verb in a sentence stands for a complex entity, then the logical subject or verb symbolized will contain constituent parts which fail to correspond to the words in that sentence, and that sentence will fail to be fully transparent; if the analysis of either of these sorts of expression reveals a logical verb not reflected in the surface grammar of that sentence, then the grammatical form of that sentence will differ from its logical form. In the following two sections, I discuss cases prior to *OD* in which Russell holds that because the grammatical verb in a sentence stands for a complex relation, the surface form of that sentence differs from its logical form.

Mark Sainsbury claims that, in *PoM*, Russell holds that every word stands for a metaphysical 'atom' – stands, that is, for a simple entity (1979: 25f.). In that case, every sentence is fully transparent, and there is no work of

philosophical analysis to be done. According to Hylton, while the pre-OD Russell recognizes cases in which a sentence is not fully transparent, he recognizes no cases in which the logical form of a sentence differs from its surface form. For immediately after claiming that, in OD, Russell inaugurates a conception of analysis according to which analysis 'will typically lead to a sentence of a quite different logical form from that with which we began', Hylton continues

This is in contrast to Russell's earlier conception of analysis, where the logical form of the sentence, or the way in which it divides up into units, is usually accepted as being the logical form of the underlying proposition. On this earlier conception, the work of analysis goes into giving an account of these units, not into questioning the division

(1990: 268)

Thus, unlike Sainsbury, Hylton allows that, prior to *OD*, Russell recognizes cases in which the 'units' of the sentence designate complex entities and in which analysis will make transparent the simple constituents of the complex entities which those 'units' designate. But, for Hylton, these will not be cases in which analysis reveals that the grammatical form of a sentence differs from its logical form. I shall now argue, against both Sainsbury and Hylton, that prior to *OD* Russell indeed recognizes cases in which a sentence not only fails to be fully transparent but also has a logical form that is different from its surface form.

Analysis and logical form in Russell's Moorean philosophy

In his November 1900 draft of PoM, Russell writes

[P]hilosophically, relations, like other terms, are simple or complex, and in the case of relations, the distinction is quite as important as elsewhere [P]hilosophically there must always be only one correct answer to the question whether a relation is simple.

(Byrd 1994: 71f.)

This passage was written shortly after his contact with Peano, but it still reflects Russell's Moorean philosophy. For central to that philosophy is the claim that equivalence relations – relations such as *simultaneity*, *equinumerosity*, and *sameness of magnitude* – are always complex, not simple. In holding that these relations are complex, the Moorean Russell recognizes a number of cases in which the logical form of a sentence differs from its grammatical form.

Thus, for example, a prominent theme of Russell's Moorean philosophy is a defence of the absolute, as against the relative, theory of time. ¹⁰ On

the relative theory, there are events but no absolute moments: an event is ordered temporally only by its relations to other events. On the absolute theory, by contrast, there are both events and absolute moments: moments have an 'intrinsic order' to one another, while events acquire a temporal order only 'by correlation' with the 'independent' or 'self-sufficient' series of moments in absolute time. As Russell writes,

Does an event occur at a time, or does it merely occur before certain events, simultaneously with others, and after a third set? The relational theory of time holds the latter view The absolute theory, on the contrary, holds that events occur *at* times, that times are before and after each other, and that events are simultaneous or successive according as they occur at the same or different times.

(1900b: 222)

On the relative theory, the only primitive terms to be related are events; and given any two events e_1 and e_2 , one of three cases will obtain: either e_1 is before e_2 , or e_1 is after e_2 , or e_1 is simultaneous with e_2 . So in addition to events, the relative theory of time recognizes three primitive relations: the asymmetric transitive relations of *before* and *after*, and the equivalence relation of *simultaneity*.

The absolute theory, by contrast, recognizes two sorts of primitive terms to be related: moments as well as events. Between any two moments, m_1 and m_2 , only two cases are possible: either m_1 is before m_2 , or m_1 is after m_2 . For since moments are temporal positions, distinct moments are distinct temporal positions, in which case no two moments can be simultaneous. In addition to these two (asymmetric and transitive) relations of before and after, which can obtain between moments, the absolute theory of time recognizes a further (many—one) relation of occurring at which assigns each event to the moment at which it occurs.

One central difference, then, between the absolute and relative theories is that whereas the relative theory recognizes *simultaneity* as a primitive relation, the absolute theory does not. Thus, on the relative theory

(T) Event e_1 is simultaneous with event e_2

is fully transparent. For (T) expresses a proposition consisting of three simple entities – events e_1 and e_2 and the relation of *simultaneity* – which correspond to the units of the sentence (although, admittedly, for (T) to be viewed as transparent, the units of the sentence have to be taken to be not single words but rather complex phrases). However, on the absolute theory, (T) is to be analysed as

(T*) There is a moment m, such that $At(e_1, m) & At(e_2, m)$,

where 'At (e, m)' abbreviates 'Event e occurs at moment m'. On this approach (T) is not fully transparent; further, its logical form differs from its surface form. For by analysing the verb 'is simultaneous with', the absolute theory construes a sentence which seems to be asserting one relation between two events as actually asserting that a different relation obtains separately between each of those events and a common moment.

Accordingly, in accepting the absolute theory of time in his pre-Peano draft of *PoM*, Russell writes

[I]f A and B are events, . . . 'A is simultaneous with B' requires analysis into 'A and B are both at one time',

(1899–1900: 147)

thereby endorsing the analysis of (T) in terms of (T*).¹¹ More generally, the Moorean Russell holds that all equivalence relations are to be 'analysed into sameness of relation to a given term' (see, for example, ibid.: 93f.). For Russell, that is, any sentence of the form

(E)
$$E(\alpha, \beta)$$
,

in which 'E', the verb of the sentence, symbolizes an equivalence relation which is intended to relate the entities α and β , is given its full analysis by a corresponding sentence of the form

$$(E^*)$$
 $(\exists x)$ $(R(\alpha, x) & R(\beta, x)),$

where R is the appropriate (many-one) relation which is to relate both α and β to a given simple third term. Thus, for the Moorean Russell, any instance of (E) will fail to be fully transparent and will have a logical form different from its surface form.

The Moorean Russell also applies this view to his theory of number. Thus he rejects the relative theory of number, according to which 'there is never a number of terms at all, but there are merely the relations of equal, greater, and less among collections' (1900b: 225), and he defends the absolute theory, according to which numbers are indefinable entities distinct from collections. For according to the Moorean Russell: '[E]quality plainly consists in possession of the same number' (ibid.: 225; see also 1899–1900: 146). Thus for the Moorean Russell

(N) Collection α is equal in number to (equinumerous with) collection β

is not fully transparent. Rather, it is given its full analysis by

(N*) There is a number n such that $P(\alpha, n) \& P(\beta, n)$,

where ' $P(\alpha, n)$ ' abbreviates 'Collection α possesses number n'. Again, Russell is treating an equivalence relation – here, that of *equinumerosity* between classes – as complex; and given his analysis of that relation, he holds not merely that (N) is not fully transparent but also that its surface form differs from its logical form.

Analysis and logical form in Russell's post-Peano pre-'On Denoting' philosophy

During his Moorean phase, Russell denies that there are any transfinite numbers. While he allows that there are infinite collections, he argues, against Cantor, that 'hopeless contradictions emerge from the attempt to assign' transfinite numbers to infinite collections (1899–1900: 125). Given this, Russell holds that it is best to conclude that 'every number is finite', rather than holding that 'there are infinite numbers, though we cannot assign them' (ibid.: 125; see also *PoL*: 117n.).

In rejecting Cantor's theory of the transfinite, the Moorean Russell denies that (N) and

(N**) There is a 1–1 mapping of the members of α onto the members of β

are equivalent, let alone express the same proposition. ¹² For the Moorean Russell holds that only finite collections have cardinal numbers and, further, that to assert (N) is really to assert (N*). Hence, for the Moorean Russell, if α and β are infinite collections, they cannot be equinumerous, since they have no cardinal numbers. But since there are 1–1 mappings from some infinite collections onto others (such as from the whole numbers onto the even numbers), there are cases where (N**) is true while the corresponding sentence (N) is not.

Immediately after the Paris Congress of 1900, however, Russell embraces Cantor's theory of the transfinite. In doing so, he now holds that the only standard which is relevant to determining whether two classes are equinumerous is whether the members of those classes can be put into a 1–1 correspondence with each other; he thereby accepts that (N) and (N**) are equivalent. Further, once he becomes a logicist, Russell holds that corresponding sentences (N) and (N**) express the same proposition and that the full analysis of that proposition is given by

```
 \begin{array}{l} (\mathsf{N}^{***}) \ (\exists R) \ [(\forall x) \ (x \in \alpha \to (\exists y) \ (y \in \beta \ \& \ R(x,y))) \ \& \\ (\forall y) (y \in \beta \to (\exists x) (x \in \alpha \ \& \ R(x,y))) \ \& \ (\forall x) (\forall y) (\forall z) \\ ((R(x,y) \ \& \ R(x,z)) \to y = z) \ \& \ (\forall x) (\forall y) (\forall z) \ ((R(x,z) \ \& \ R(y,z)) \to x = y)]. \end{array}
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For (N^{***}) spells out what it is to say that there is a 1–1 mapping from the α s to the β s: it is to say that there is a relation R which correlates each

member of α with a member of β and vice versa, where R is both many—one and one—many (see PoM: 113, 305, 356).

In holding that (N^{***}) provides the full analysis of (N), the post-Peano Russell still holds – albeit for different reasons from the Moorean Russell – that the surface form of (N) differs from its logical form. For, on this analysis, the verb of (N) – 'is equinumerous with' – is defined as 'stands in a 1–1 correspondence with'; and when this definition is spelled out in (N^{***}) , (N), whose grammatical form is that of a two-place relational sentence, is revealed as having the complex logical form of (N^{***}) .

As a logicist, Russell not only analyses *equinumerosity* in the manner of (N***), he also analyses the integers as classes of equinumerous classes. No longer are integers simple, indefinable ultimate constituents of the universe, distinct from the classes to which they may be assigned; now integers are complex, defined entities composed of the classes to which they are assigned. With regard to the fundamental issue at stake between absolute and relative theories of number – the issue whether integers are indefinable ultimate constituents of the universe, Russell has abandoned the absolute theory of number in favour of the relative theory.¹³

If one focused simply on his logicist analyses of the integers, one might hold (with Hylton) that Russell's analyses in PoM do not require one to recognize cases in which the grammatical form of a sentence differs from its logical form. Thus, on the logicist approach, 'The number of Fs is 2' expresses a proposition which is more transparently represented as 'The class of classes equinumerous with the class of Fs = the class of two-membered classes'. Here, while the former sentence is not fully transparent (for the expressions 'the number of Fs' and '2' are definable), one might hold that the logical form of that sentence is the same as its surface form – the form of an identity statement. He although discrepancies between surface and logical form may be less prominent in Russell's post-Peano logicist philosophy than they were during his Moorean phase, there still are such discrepancies, as the analysis of (N^*) by (N^{***}) illustrates.

The constitution of propositions and the denotingconcepts account of general sentences

So far I have argued that during both his pre-Peano Moorean period and his post-Peano but pre-*OD* period, Russell recognized cases in which the logical form of a sentence differs from its surface form; however, these cases emerge from Russell's concerns with such issues as the metaphysics of time and number, not from concerns with the analysis of general sentences as such. In this part, I turn to discuss the theory of general sentences which Russell introduced in his post-Peano but pre-*OD* phase – the theory of denoting concepts.

My discussion is in three sections. First, I provide some general background by way of discussing certain features of Russell's pre-Peano

Moorean theory of propositions and their constituents; second, I discuss how the denoting-concepts account of general sentences involves certain departures from that Moorean theory; third, I argue that despite these departures from Moorean theory, the denoting-concepts account of general sentences does not involve the view that surface form of a general sentence differs from its logical form.

Moorean propositions: some general considerations

I begin by distinguishing two conceptions of the proposition expressed by a sentence. First, there is the proposition as the 'factual content' expressed by a sentence:

(FC) The factual content expressed by a sentence consists of each entity which that sentence is about together with the logical verbs which are ascribed by that sentence to its logical subjects.

This is the conception of the proposition which I have above attributed to the Moorean Russell. The entities which, by (FC), are the constituents of the factual content of a sentence just are, for Russell, the entities which are relevant to the truth or falsity of that sentence; they are the entities – the elements of reality – which would compose the fact which must obtain for that sentence to be true.

As well as the factual content expressed by a sentence, there is also its 'conceptual content':

(CC) The conceptual content expressed by a sentence has as its constituents the entities with which we must be acquainted in order to understand that sentence.

Throughout his writings, Russell endorses 'the principle of acquaintance' – according to which apprehending a proposition requires being acquainted with each of its constituents – as an obvious principle. When he does so, he is considering the proposition as conceptual content.¹⁶

While Russell's primary concern, during his Moorean phase, is with the proposition as factual content, he also equates the proposition as factual content with the proposition as conceptual content. That is to say, the Moorean Russell accepts

(PROP) The proposition expressed by a sentence = the factual content of that sentence = the conceptual content of that sentence.

What enables the Moorean Russell to accept (PROP) is that he holds that there are no limitations on our powers of acquaintance. In particular, he accepts 86

(AU) We can be acquainted with any entity; there is no entity with which we cannot, in principle, be acquainted

(where '(AU)' is short for 'acquaintance unlimited'). As Hylton writes, on the early views of both Moore and Russell, the notion of acquaintance 'carries with it no constraints' (1990: 245): for Russell as for Moore all of reality is 'transparent to the intellect' in the sense that we can be in 'direct contact' with any constituent of reality (ibid.: 137).¹⁷ Given this unrestricted view of acquaintance, the Moorean Russell is able to equate the conceptual content expressed by a sentence with its factual content. For, if we can be acquainted with any entity, then we can be acquainted with each constituent of any factual content, in which case there is nothing to preclude the view that the entities with which we must be acquainted in order to understand a sentence just are the entities constituting the factual content expressed by that sentence.

By accepting (PROP), the Moorean Russell thereby also accepts

(AB) Understanding a sentence requires being acquainted with each entity which that sentence is about.

For if, by (PROP), the factual content of a sentence just is its conceptual content, then each entity which a sentence is about will be a constituent of the conceptual content of that sentence, in which case understanding a sentence will, in accord with (AB), require being acquainted with each entity which it is about.

Closely related to his distinction between logical subjects and logical verbs, Russell recognizes a distinction between two kinds of entity: those entities - 'things' - which can occur only as logical subjects of propositions; and those entities – predicates and relations, and more generally 'concepts' – which can function as logical verbs. However, while Russell holds that predicates and relations sometimes do not function as logical subjects, he also accepts

(LS) For each entity, there is at least one factual content in which that entity occurs as logical subject.

Thus, for Russell, in the proposition 'A differs from B', the relation of difference is occurring 'as verb', not as logical subject; however, in accord with (LS), he holds that there is at least one proposition – an example would be 'Difference is a relation' – in which difference functions as logical subject. For Russell, Socrates is a thing, because Socrates can occur in propositions only as logical subject, not 'as verb'. Difference, by contrast, is a concept, because it can occur either as subject (as in 'Difference is a relation') or as verb (as in 'A differs from B'). 18

Further, by accepting (AU) along with (LS), the Moorean Russell thereby accepts

(AB*) If we can be acquainted with an entity, then we can apprehend a factual content about that entity.

For, by (LS), for each entity there is at least one factual content about that entity; and, in accepting (AU), the Moorean Russell holds that we can be acquainted with each entity and can apprehend each factual content (that is, each proposition). Hence, for the Moorean Russell, and in accord with (AB*), for each entity with which we can be acquainted (namely, each entity there is), we can apprehend a factual content about that entity.

The theory of denoting concepts

The theory of denoting concepts is Russell's pre-OD theory of denoting phrases – phrases of the forms 'all Fs', 'every F', 'any F', 'an F', 'some F', and 'the F' – expressions which, for Russell, are the grammatical subjects of general sentences. Accordingly, the theory of denoting concepts is Russell's pre-OD theory of general sentences. Russell devises the theory for the specific purpose of addressing epistemological issues which arise for him once he comes to accept Cantor's theory of the transfinite.

In accepting Cantor's theory, Russell holds, as against his Moorean view, that infinite classes are 'completed totalities' to which we can assign transfinite numbers. In particular, he holds, as against (AU), that there are some entities — namely, these infinite completed totalities — with which we (humans) cannot be acquainted but which we can, nevertheless, 'deal with' or 'manipulate' or gain knowledge 'about' by means of general sentences (see *PoM*: 66, 73, 106, 145). And by holding that general sentences which we can understand can be about entities with which we cannot be acquainted, Russell is led to hold that general sentences fail to obey (PROP) as well as (AB). Thus, for example (see *PoM*: 145), in the case of the general sentence

(SUCC) Any number has a successor,

Russell (post-Peano) accepts both

(5) (SUCC) is about an infinite totality with which we humans cannot be acquainted

and

(6) We humans can understand (SUCC).

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Hence, by (5) and (6), and contrary to (AB), we can understand (SUCC) without being acquainted with the infinite totality it is about. And since that infinite totality is a constituent of the factual content of (SUCC) but not of its conceptual content, then, contrary to (PROP), the factual content of (SUCC) is not the same as its conceptual content.

The way in which Russell explains how a general sentence can thus violate (PROP) and (AB) is by maintaining that denoting phrases serve to symbolize denoting concepts, entities which 'are, so to speak, symbolic in their own nature' (*PoM*: 47) in that they 'inherently and logically' symbolize or signify or 'denote' other entities (ibid.: 53). In particular, Russell accepts both

(DC₁) A denoting concept can occur as a constituent of a conceptual content which we can apprehend,

and

 (DC_2) If a denoting concept occurs as a constituent of a conceptual content, then that conceptual content is not about that denoting concept itself, but is rather about the entity denoted by that denoting concept.

Thus, on the theory of denoting concepts, and in accord with (DC₁), the denoting phrase 'any number' contributes the denoting concept *any number* to the conceptual content we apprehend in understanding (SUCC). However, in accord with (DC₂), (SUCC) is not about that denoting concept; rather, it is about the entity denoted by that denoting concept. Accordingly, in understanding (SUCC) we succeed in thinking about an infinitely complex entity with which we cannot be acquainted.

On the theory of denoting concepts, there is a distinction between denoting phrases and names 'in the narrow sense' or 'genuine proper names', a distinction which determines the difference between general and atomic sentences. Both sorts of expression function as grammatical subjects; but whereas denoting phrases determine the logical subjects of sentences 'indirectly', by symbolizing denoting concepts which, in turn, denote logical subjects, 'genuine proper names' determine logical subjects of sentences 'directly', by simply designating logical subjects without symbolizing intermediary concepts which denote those subjects. Consequently, whereas general sentences – sentences which contain denoting phrases as grammatical subjects – obey

 (G_1) The conceptual content expressed by a general sentence \neq the factual content expressed by that sentence

(G₂) Understanding a general sentence does not require one to be acquainted with each entity which it is about,

atomic sentences – sentences which contain only 'genuine proper names' as grammatical subjects – obey

 (A_1) The conceptual content expressed by an atomic sentence = the factual content expressed by that sentence

and

(A₂) Understanding an atomic sentence requires one to be acquainted with each entity which it is about.

Because denoting phrases contribute different entities (denoting concepts and the entities denoted by those denoting concepts) to the conceptual and factual contents they help to express, general sentences, contrary to (PROP) and (AB), obey (G_1) and (G_2) . Because 'genuine proper names' simply contribute the entities they designate to both the conceptual and factual contents they help to express, atomic sentences obey (A_1) and (A_2) .

In his 1903 manuscript 'On Meaning and Denotation', Russell illustrates these differences by discussing the sentences

(7) Arthur Balfour advocates retaliation

and

(8) The present Prime Minister of England²¹ advocates retaliation.

For Russell, 'Arthur Balfour' is a name 'in the narrow sense' while 'the present Prime Minister of England' is a definite description which signifies a denoting concept whose denotation (in 1903) is the person designated by the name 'Arthur Balfour' (1903d: 315). For Russell, even though sentences (7) and (8) 'differ in meaning' - that is, differ in conceptual content - they are both 'about Mr. Arthur Balfour' and 'denote' the same 'fact' – that is, express the same factual content (ibid.: 319). For Russell, that is, (8) is a general sentence whose factual content is the same as that expressed by the atomic sentence (7). Thus, in accord with (A_1) and (A_2) , the entity we are talking about in (7) – Arthur Balfour, 'the man himself' - is a constituent of the 'complex' we have to apprehend in order to understand (7); and understanding (7) will require acquaintance with that person (ibid.: 315f.). In accord with (G_1) and (G_2) , even though (8) is about Arthur Balfour, he is not a constituent of the 'meaning' we have to apprehend in order to understand (8), and understanding (8) will not require acquaintance with that person (ibid.: 316f.).

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Thus, on his theory of denoting concepts, as on his later theory of OD, Russell not only recognizes a difference in kind between general and atomic sentences, but also regards sentences of the form 'The F is G' as general, not atomic. Hence, for Russell, neither of these views distinguishes his position in OD from the theory of denoting concepts. As I argue below, what is distinctive about OD is that, there, Russell offers a new account of the precise difference between general sentences (including those of the form 'The F is G') and atomic sentences.

Finally, while Russell's account, on the theory of denoting concepts, of general sentences commits him to rejecting (PROP) and (AB), his view of atomic sentences enables him to continue to accept (AB*). For Russell holds that if we can be acquainted with an entity, then we can give 'a name in the narrow sense' to that entity, and can speak 'directly' about that entity by means of an atomic sentence. ²² By (A₁), the factual content of that atomic sentence is the same as its conceptual content; hence, in understanding that atomic sentence we will, in accord with (AB*), be apprehending a factual content about that entity. Now the theory of denoting concepts does not require that the *only* way we can speak about an entity with which we can be acquainted is 'directly', by means of an atomic sentence about that entity; for we can, as in sentence (8), speak 'indirectly' about that same entity, by means of a general sentence which contains a definite description of it. But by holding that we *can* speak 'directly' about any entity with which we can be acquainted, Russell continues to accept (AB*).

The theory of denoting concepts and logical form

On the theory of denoting concepts, general sentences violate Russell's Moorean principles (PROP) and (AB), and a distinction emerges between the conceptual and factual contents of general sentences; but, on this theory, there is no distinction between the grammatical form of a general sentence and its logical form. More specifically, on the theory of denoting concepts, while a general sentence will fail to be a fully transparent representation of its factual content, it will have the same logical form as both its factual and conceptual contents.

Thus consider

(9) a is G

and

(10) The F is G,

where the denotation of 'the F' is the same entity as that designated by 'a', a name 'in the narrow sense'. In this case, (9) is an atomic sentence which transparently represents its factual content, that is, its conceptual content.

(10) is a general sentence whose factual content is the same as that expressed by (9). But while the conceptual content of (10) includes among its constituents the denoting concept symbolized by 'the F', its factual content includes not that denoting concept but rather the entity denoted by that denoting concept – the same entity as the one designated by 'a'.

In this case, (10) transparently represents its conceptual content, but not its factual content. To each expression in (10), there is a corresponding entity in its conceptual content; but the entity corresponding to 'the F' in the factual content is not transparently represented by that phrase. Thus if 'the F' is 'the present Prime Minister of England', what this phrase contributes to the conceptual content of any sentence in which it occurs is the denoting concept *the present Prime Minister of England* – a complex entity whose parts are transparently represented by the parts of the denoting phrase. What this phrase contributes to the factual content, however, is simply the person denoted by that denoting concept; and that person – not being composed of parts corresponding to the parts of that phrase – is not transparently represented by that phrase.²³

However, while (10) transparently represents its conceptual content though not its factual content, the grammatical form of (10) is the same as the logical form of both its factual and conceptual contents. First, for Russell, (9) and (10) have the same grammatical form: each consists of one grammatical subject ('a' in (9), 'the F' in (10)) together with the same predicate ('is G') as grammatical verb. More specifically, since the one verb in each of these sentences is the same (and a fortiori of the same kind), then, by (GF), these sentences have the same grammatical form. Thus, on the theory of denoting concepts, (9) – which has the same grammatical form as (10) – is a fully transparent representation of the factual content of (10); hence, by (GF)/(LF), the grammatical form of (10) is the same as the logical form of its conceptual content, the grammatical form of (10) is the same as the logical form of its conceptual content.

More generally, on the theory of denoting concepts, the grammatical structure of a general sentence mirrors the logical structure of both its conceptual and its factual contents: corresponding to a grammatical subject of a general sentence (a denoting phrase) is an entity which either determines (in the conceptual content) or which is (in the factual content) a logical subject which that sentence is about; and corresponding to the grammatical verb of that sentence is (in both the conceptual and factual contents) the logical verb which is being ascribed by that sentence to its logical subjects.

Some arguments against the theory of denoting concepts

I turn now to consider three arguments against the theory of denoting concepts: first, that it gives an inadequate account of sentences containing denoting phrases which fail to denote anything; second, that it fails to provide a coherent account of the distinction between knowledge by acquaintance and knowledge by description; and third, that it fails to provide a coherent account of propositional attitude statements. I argue that given certain views Russell is constant in accepting, these arguments are successful and reveal constraints which, for Russell, any adequate theory of denoting phrases must obey.

The theory of denoting concepts and empty denoting phrases

In his discussion of OD, Hylton argues against those commentators who hold that the question how we are 'to account for sentences containing definite descriptions which do not in fact uniquely describe anything' is 'the crucial feature of OD' which 'provide[s] the motive for the change which that article represents in Russell's thought' (1990: 240). For, according to Hylton, the theory of denoting concepts provides as adequate an account of such sentences as does the theory of OD.

To assess Hylton's claim, I distinguish two claims involving sentences containing empty denoting phrases:

(11) A sentence containing an empty denoting phrase can be meaningful (that is, can express a conceptual content)

and

(12) A sentence containing an empty denoting phrase can have a truth-value (that is, can express a factual content).

In denying that issues concerning sentences containing empty denoting phrases are relevant to Russell's rejection of the theory of denoting concepts, Hylton writes

[T]he theory of denoting concepts explains how we can meaningfully say 'The present King of France is bald' . . . without presupposing that there is a present King of France subsisting (if not existing) in the realm of being,

(1990: 241)

thereby indicating that on his view the theory of denoting concepts can sustain (11). While I agree with Hylton that the theory of denoting concepts incorporates (11), I deny that it incorporates (12); hence, in so far as Russell has good reasons for holding that an adequate theory of denoting phrases should incorporate (12) as well as (11), he has good reasons for rejecting his theory of denoting concepts.

Prior to the theory of denoting concepts, Russell has no way of sustaining either (11) or (12). For prior to that theory Russell makes no provision for

a grammatical subject which has 'meaning' but not 'denotation': since the 'meaning' of a grammatical subject simply is its 'denotation', a grammatical subject lacking 'denotation' will be wholly meaningless, in which case a sentence in which such a grammatical subject occurs will likewise be meaningless and hence will fail to express a factual content, true or false.

On the theory of denoting concepts, by contrast, a denoting phrase can have 'meaning' even when it lacks 'denotation': such a phrase will signify a denoting concept which fails to denote any entity at all. Since the denoting phrase has 'meaning', it can, in accord with (11), help to express a conceptual content; however, since the phrase has no 'denotation', it cannot, contrary to (12), help to express a factual content. For, on the theory of denoting concepts, where a denoting phrase lacks denotation, a sentence in which that phrase occurs will fail to be about anything, in which case the sentence will fail to be either true or false. Accordingly, in a manuscript written prior to *OD*, Russell indicates that while the phrase 'the present King of France' has 'meaning' it 'denotes nothing'; and he argues that because of this

[W]e shall have to say that 'the present King of France is bald' is neither true nor false; for truth and falsehood have to do with what a sentence *denotes*, not with what it *means*; and we must take it as axiomatic that the subject of a proposition is part of the denotation of the proposition.

(1903b: 286)²⁶

Hence, in so far as an adequate theory of denoting phrases should incorporate (12) as well as (11), the theory of denoting concepts fails to be adequate. Further, the reason why the theory of denoting concepts fails to incorporate (12) is because it incorporates

(13) In order for a sentence to express a factual content (and hence for it to be either true or false), that sentence must succeed in being about an entity,

along with

(14) A sentence containing a denoting phrase is about the denotation of that phrase.

On the theory of denoting concepts, that is, Russell holds, by (14), that a sentence containing a denoting phrase with no denotation fails to be about any entity, in which case, by (13), and as against (12), such a sentence fails to be either true or false.

After OD, Russell continues to accept (13); hence, if he is to sustain (12), he will have to reject (14). Accordingly, in OD, after arguing that a

sentence containing an empty denoting phrase should still be able to have a truth-value, Russell indicates that to ensure this he will 'abandon the view that the denotation is what is concerned in propositions which contain denoting phrases' (*OD*: 484) – that is, he will abandon (14).

The theory of denoting concepts and acquaintance

For Hylton, the theory of denoting concepts not only provides an equally adequate account of sentences containing empty denoting phrases as does the theory of *OD*; it also provides an equally adequate account of the distinction between knowledge by acquaintance and knowledge by description. As he writes,

Epistemologically there is thus no evident difference between the *OD* theory and the theory of denoting concepts. Just as the former enables one to distinguish knowledge by acquaintance from knowledge by description, so the latter enables one to distinguish knowledge by acquaintance from knowledge by denoting, or 'denotative knowledge'.

(1990: 248)

In the previous section, I argued that, from Russell's point of view, the theory of denoting concepts does not provide a fully adequate account of sentences containing empty denoting phrases; I argue now that, from Russell's point of view, the theory of denoting concepts does not even provide a coherent account of the distinction between knowledge by acquaintance and knowledge by description.

As I have discussed above, Russell introduces the theory of denoting concepts once he comes to hold, as against (AU), that there are two sorts of entities: those with which we can, in principle, be acquainted; and those with which we cannot be acquainted. On the theory of denoting concepts, this is the same as the distinction between entities we can 'deal with' – that is, talk about – by means of atomic sentences which are about them and entities we can 'deal with' only by means of general sentences. For, on the theory of denoting concepts, Russell sustains (AB*) as the view that if we can be acquainted with an entity, then we can deal 'directly' with that entity by means of an atomic sentence about it; and, by (CC), if we cannot be acquainted with an entity, then it cannot be a constituent of a conceptual content we can apprehend, in which case the only way we can 'deal with' that entity is by means of general sentences, which can be about entities which are not constituents of their conceptual contents.

However, a problem arises on the theory of denoting concepts concerning where denoting concepts themselves fit into these dichotomies.²⁷ For the theory of denoting concepts incorporates (DC_1) and (DC_2) . Now by (DC_1) along with (CC), we can be acquainted with denoting concepts: for by (DC_1) denoting concepts can be constituents of conceptual contents

which we can apprehend, in which case, by (CC), we can be acquainted with denoting concepts. But by (AB*), if we can be acquainted with an entity, then we can deal with that entity by means of an atomic sentence about it; hence, by the contrapositive of (AB*), if we cannot deal with an entity by means of an atomic sentence about it, then we cannot be acquainted with that entity. And, by (DC₂), we cannot deal with denoting concepts by means of atomic sentences. For, by (DC₂), conceptual contents containing denoting concepts are not factual contents about those denoting concepts; rather, they determine distinct factual contents about the entities denoted by those denoting concepts. That is to say, by (DC₂), there are no atomic sentences – sentences that obey (A_1) – about denoting concepts, in which case the only way we can deal with denoting concepts is through general sentences about them. And from this together with (AB*) it follows that we cannot be acquainted with denoting concepts. Hence we have reached a contradiction: by virtue of (CC) together with (DC₁) we can be acquainted with denoting concepts; but by virtue of (AB*) together with (DC₂) we cannot be acquainted with them.

In OD and afterwards Russell continues to accept (CC) as well as (AB*). That is, he continues to hold, in accord with (CC) and what has come to be called his 'principle of acquaintance', that apprehending a conceptual content requires being acquainted with each of its constituents (see OD: 492); and he continues to hold, in accord with (AB*), that if we can be acquainted with an entity, then we can give a name 'in the narrow sense' to that entity and deal 'directly' with it (OD: 479f., 492f.). Hence, given that a contradiction ensues from maintaining (DC₁) and (DC₂) along with (CC) and (AB*), and given that he continues to accept (CC) and (AB*) after OD, it follows that in order to sustain a coherent position Russell must deny at least one of (DC₁) and (DC₂).

The theory of denoting concepts and propositional attitude statements

I turn finally to consider what – from Russell's perspective – is a third successful argument against the theory of denoting concepts.²⁸ On the theory of denoting concepts, Russell adheres generally to

 (DC_3) A denoting phrase contributes its denotation – the entity denoted by the denoting concept it symbolizes – to a factual content which it helps to express; a name 'in the narrow sense' contributes the entity it designates to a factual content which it helps to express.

In particular, given sentences

(15) Scott was the author of Waverley

96 James Levine

and

(16) Scott was Scott,

Russell applies (DC₃) so as to accept

(17) Sentences (15) and (16) express the same factual content.²⁹

If we make two further assumptions, both of which Russell accepts before and after OD, we can derive a contradiction from (DC₃), when this is understood as implying (17).

First, in OD, Russell writes

The proposition 'Scott was the author of *Waverley*' has a property not possessed by 'Scott was Scott', namely the property that George IV wished to know whether it was true.

(1905b: 487)

Here Russell is claiming, in effect, that while sentence

(18) George IV wished to know whether Scott was the author of *Waverley*

is true, sentence

(19) George IV wished to know whether Scott was Scott

is false. In that case, he accepts

(20) Sentences (18) and (19) express different factual contents – that is, are making different claims about different entities.

For while sentences which express different factual contents may have the same truth-value, if sentences have different truth-values, they must express different factual contents. More generally, in accepting (20), Russell accepts

(OP) If S is a propositional attitude statement which contains denoting phrase P occurring within the scope of the propositional attitude operator, then replacing P by another denoting phrase or name with the same denotation as P may yield a sentence with a different truth-value – and hence a different factual content – from S,

i.e. the view that propositional attitude statements generate opaque contexts for denoting phrases.

By accepting (DC₃) along with (17) and (20), Russell is forced to hold that the denoting phrase 'the author of Waverley' contributes a different denoting concept to the conceptual content expressed by (15) from the one it contributes to the conceptual content expressed by (18). By (DC₃) along with (17), in sentence (15) the phrase 'the author of Waverley' signifies a denoting concept – call it dc_1 – which denotes the person Scott; it is on account of this that, in accord with (17), sentences (15) and (16) have the same factual content. Further, the only difference between (18) and (19) is that (18) contains the phrase 'the author of Waverley' where (19) contains the name 'Scott' (assuming throughout that 'Scott' is a genuine proper name); hence, the only difference between the factual contents expressed by these sentences will be due to the different contributions of 'the author of Waverley' in (18) and 'Scott' in (19). By (DC₃), 'Scott' contributes the person Scott to the factual content expressed by (19); hence, if 'the author of Waverley' contributed dc_1 to the conceptual content expressed by (18), then it would also contribute the person Scott to the factual content expressed by (18), in which case, and as against (20), (18) and (19) would express the same factual content. Hence, if Russell is to sustain (DC₃) along with (17) and (20), it follows that he must hold that 'the author of Waverley' does not contribute the same denoting concept to the conceptual content expressed by (18) as it contributes to the conceptual content expressed by (15).

This conclusion, however, is bound to be unacceptable to Russell. For throughout his writings Russell makes clear that he accepts a view which, following Davidson (1968: 108), I shall call 'semantic innocence':

(SI) Whenever two uses of the same word or phrase are logically related, that word or phrase makes the same contribution to a conceptual content it helps express.

In particular, throughout his writings, Russell emphasizes that 'meaning in the sense in which words have meaning is irrelevant to logic' (*PoM*: 47; see also, for example, 1903d: 315); and what enables Russell to accept this is (SI). For, by (SI), a given word will always symbolize the same entity in logically related cases; hence what matters in such cases is not how that word functions (since this will be constant), but rather how the entity symbolized by that word functions.

By (SI), the expression 'the author of *Waverley*' contributes the same entity to the conceptual contents expressed by (15) and (18). For there are logical relations between these sentences. Thus, for example, from the truth of (15), we can infer from (18) that what George IV wished to know was, in fact, true. And given that these sentences are logically related, (SI) requires that 'the author of *Waverley*' make the same contribution to the conceptual contents expressed by (15) and (18).

It follows from this there is a contradiction involved in accepting (DC_3) and (17) along with (20) and (SI). For by (DC_3) together with (17) and

(20), 'the author of *Waverley*' contributes different denoting concepts to the conceptual contents expressed by (15) and (18); however, by (SI), that phrase makes the same contribution to those conceptual contents. After OD, Russell continues to accept (20), and more generally (OP), as well as (SI); hence, in order to avoid contradiction, he must deny at least one of (DC₃) and (17).

'On Denoting' and after

I have argued that given certain problems facing his theory of denoting concepts, Russell is committed to holding that a successful theory of denoting phrases must meet the following desiderata:

- (D1) A sentence containing an empty denoting phrase can both be meaningful (express a conceptual content) and have a truth-value (express a factual content);
- (D2) A sentence containing a denoting phrase is not about the denotation of that phrase;
- (D3) A theory of denoting phrases may not incorporate both (DC₁) and (DC₂);
- (D4) A theory of denoting phrases may not incorporate both (DC₃) and (17).

And I have argued that Russell is committed to these desiderata at least in part because he is antecedently committed to the following principles: (CC), (AB*), (SI), and (OP).

I turn now to consider how, in *OD* and after, Russell meets these desiderata. I proceed in three sections. First, I consider the extent to which Russell meets them in *OD* and his subsequent 'substitutional theory'; second, I consider how he meets them during the period 1910–12; third, I argue that *OD* introduces, for Russell, a new kind of analysis and a new sort of case in which the surface form of a sentence may differ from its logical form.

'On Denoting' and the substitutional theory

In OD, Russell analyses general sentences quantificationally. Thus, he accepts – what he had denied in PoM (see, for example, 36, 74) – that a sentence of the form

(21) Every F is G

is given its full analysis by a sentence of the form

(22)
$$(\forall x)(Fx \to Gx)$$
.

Likewise, and more famously, he holds that a sentence of the form

(10) The
$$F$$
 is G

is given its full analysis by a sentence of the form

(23)
$$(\exists x) (Fx \& (\forall y) (Fy \rightarrow y = x) \& Gx).$$

Simply by accepting such analyses as these, Russell meets desideratum (D1). For, by these analyses, sentences of these forms may be meaningful and may have truth-values, regardless of whether their grammatical subjects 'every F' or 'the F' succeed in 'denoting'. In particular, by these analyses, if there are no Fs, then a sentence of form (21) will be true (not neither true nor false as in PoM: see n. 26); and if there is not one and only one F, a sentence of form (10) will be false (not neither true nor false as in Russell's pre-OD manuscripts). In OD (488; see also 1911a: 229f.), Russell holds that we may say that a phrase of the form 'the F' has a 'denotation' if and only if there is one and only one F, and in such a case we may call that unique entity which is F the 'denotation' of phrases of the form 'the F'. Hence, by dint of his new analysis in OD, Russell holds, as against the theory of denoting concepts, that a sentence of form (10) may have a truth-value even when the denoting phrase in that sentence has no denotation.

However, in thus meeting desideratum (D1), Russell has not thereby met the other desiderata. For in simply accepting quantificational translations of general sentences, Russell has not thereby explained what are the constituents of the conceptual and factual contents of these sentences: he has not explained what entities we have to be acquainted with in order to understand these sentences, nor what entities they are about. But in the absence of a full account of the entities which general sentences are about, he has not made clear exactly how he is to meet (D2); and in the absence of a full account of the constituents of the conceptual and factual contents of general sentences, he has not made clear exactly how he is to meet (D3) and (D4).³⁰

Thus the challenge facing Russell after OD is to explain exactly what conceptual and factual contents are expressed by general sentences, while also meeting desiderata (D1)–(D4). This problem is pressing, given that on the theory of denoting concepts Russell had held that 'the variable' – a non-linguistic entity symbolized by the letter 'x' in (22) or (23) – as well as 'propositional functions' – non-linguistic entities symbolized by expressions of the form 'Fx' – are denoting concepts, which accordingly obey (DC₁) and (DC₂).³¹ By the argument of OD, Russell denies that phrases of such forms as 'every F' or 'the F' contribute corresponding denoting concepts every F and the F to the conceptual contents which those phrases help to express. But if the variable or propositional functions – understood

as denoting concepts which obey (DC_1) and (DC_2) – are constituents of the conceptual contents of general sentences, then the problems regarding denoting concepts raised above will resurface.

Russell is fully aware, by the time he writes OD, that if he continues to treat propositional functions or 'the variable' as denoting concepts, his general problems regarding denoting concepts will remain.³² Thus it is understandable that, shortly after writing OD, Russell develops a theory – the so-called 'substitutional theory' - according to which there are no propositional functions and there is no variable (construed as non-linguistic correlates of open sentences and variable letters).³³ But now the problem of the constituents of the conceptual and factual contents of general sentences becomes even more prominent. If there are no propositional functions and if there is no variable, with what entities must we be acquainted in order to understand general sentences? And what are the constituents of the factual contents of general sentences? What are they about?³⁴ At one point in the development of his substitutional theory, and consistent with his rejection of propositional functions, Russell denies that there are general propositions in addition to atomic propositions (see 1906: 204, 207). But in doing so he provides no account as to what is involved in understanding general sentences or what entities, if any, they should be considered to be about.

By the time he came to write *PM*, Russell had abandoned the substitutional theory. While his primary reason for doing so was not in order to address the issues I have just raised, his new view does address these issues more fully, and in doing so provides an indication of how Russell intends to meet desiderata (D2)–(D4).

Russell on general sentences: 1910-12

In PM, and consistently with his having rejected the substitutional theory, Russell reintroduces propositional functions as genuine entities.³⁵ In fact, in PM, Russell uses much the same terminology in discussing propositional functions as he had used prior to 1905 when he regarded propositional functions as denoting concepts. Thus he 'distinguish[es] the [propositional] function itself from an undetermined value of the function' and writes that 'the function itself, $\varphi \hat{x}$, is the single thing which ambiguously denotes its many values' (PM: 40). Here, Russell seems to have returned to the view, which he embraced under the theory of denoting concepts, that propositional functions are denoting concepts: they are extra-linguistic entities which are 'intrinsically symbolic' in that they denote other extra-linguistic entities.³⁶

However, as I have just argued, if propositional functions are denoting concepts which obey (DC_1) and (DC_2) , then Russell's account will be vulnerable to the difficulties I discussed above. In PM and after, Russell avoids these problems, I believe, by holding that while propositional

functions are intrinsically symbolic, they do not obey (DC_2) . In particular, he holds that when a propositional function occurs in subject-position in a conceptual content, that conceptual content is, contrary to (DC_2) , not about any entities which that propositional function 'inherently symbolizes', but is rather about that very propositional function itself. General sentences are then about the propositional functions with which we must be acquainted in order to understand those sentences; and in that case Russell can return to accepting (PROP) and (AB), while meeting desiderata (D2)–(D4).

In accordance with the new position, in PM (138) Whitehead and Russell write

It will be seen that formal implication $((x).\varphi x \supset \psi x)$ is a relation of two functions $\varphi \hat{x}$ and $\psi \hat{x}$,

thereby indicating that a sentence of form (22) is asserting a relation between two propositional functions, in which case those propositional functions are the logical subjects of that sentence.³⁷ Likewise, in his 1911 paper 'Knowledge by Acquaintance and Knowledge by Description', immediately after writing that 'The author of *Waverley* is the author of *Marmion*'

 \dots is analysed as meaning \dots that the propositional function 'x wrote *Waverley* and *Marmion*, and no one else did' is capable of truth,

Russell adds

Thus the true subject of our judgment is a propositional function . . . (1911a: 229)

– a point he reiterates in the final paragraph of the paper when he writes that in such judgements propositional functions are 'the ultimate subjects' (232). Thus Russell is now suggesting that in general sentences the 'ultimate' or 'true' subjects – that is, the entities we are talking about – are propositional functions.

Elsewhere during this period, Russell indicates that general sentences are 'about universals'. Thus, in 1911, he writes that: 'Propositions of the form "All A is B" are not really subject-predicate propositions, but express relations of predicates' (1911b: 123), thereby indicating that sentences of form (21) are in fact about predicates (for Russell, a kind of universal). Also, in 1911, he claims that the propositions of logic, which for him are all general propositions, are 'propositions about universals' (1911c: 293). Further, in his 1912 book *The Problems of Philosophy (PoP)*, Russell claims generally that 'many propositions which might seem to be concerned with particulars are really only concerned with universals' (104), and argues,

more specifically, that the general statement 'Any collection formed of two twos is a collection of four' is 'about "couple", the universal, and not about this or that couple' (105). Thus he argues that while a general sentence may seem to be about particulars, it is really about – is really 'concerned with' – universals.

There are delicate issues concerning how, on Russell's position during this period, propositional functions are to be related to universals (predicates and relations).³⁸ My concern here, however, is not to address such issues; rather, it is to make the point that in claiming that general sentences are about universals (or propositional functions), Russell is holding that the entities which a general sentence is about are among the entities with which we must be acquainted in order to understand that sentence. In *PoP*, in introducing the view that general sentences are about universals not particulars, Russell writes

One way of discovering what a proposition deals with is to ask ourselves what words we must understand – in other words, what objects we must be acquainted with – in order to see what the proposition means. As soon as we see what the proposition means, even if we do not yet know whether it is true or false, it is evident that we must have acquaintance with whatever is really dealt with by the proposition.

(1912: 104)

In this passage, Russell is, in effect, endorsing (AB). For he is claiming that the entities 'dealt with' by a sentence – that is, the entities which the sentence is about – are among the entities with which we must be acquainted in order to understand that sentence.³⁹ Two paragraphs later, in discussing the sentence 'All men are mortals', Russell writes that while understanding the sentence requires acquaintance with 'the universals involved, namely *man* and *mortal*', it 'obviously' does not require 'acquaintance with the whole human race'. In accord with (AB), Russell thus holds that the general sentence is about the 'universals involved', not individual human beings.⁴⁰

On the theory of denoting concepts, Russell held that general sentences are about entities with which we are not – and in some cases cannot be – acquainted in understanding those sentences. Thus, he distinguished the conceptual content of a general sentence from its factual content and accepted (G₁) and (G₂), thereby rejecting (PROP) and (AB); and thus he introduced entities – denoting concepts – which obey (DC₁) and (DC₂). However, as he came to realize, the introduction of such entities creates difficulties within his philosophy; by the time of writing *PoP*, he holds, in accord with (AB), that general sentences are about the very universals (or propositional functions) with which we must be acquainted in order to understand those sentences, thereby avoiding entities which obey (DC₂). Russell no longer holds that the conceptual content of a general sentence

differs from its factual content. Now he has returned to accepting (PROP), his Moorean view that the proposition expressed by a sentence, general or atomic, is both the conceptual and factual content of that sentence – the view, that is, that the entities with which we must be acquainted if we are to understand any sentence, general or atomic, just are the entities constituting the factual content of that sentence.⁴¹

Consequently, while Russell continues to hold that there is a difference in kind between general and atomic sentences, he now characterizes this difference differently. It is no longer the case that general sentences obey (G_1) and (G_2) while atomic sentences obey (A_1) and (A_2) ; rather, it is that general sentences obey

(G*) General sentences are sentences about universals,

while atomic sentences obey

(A*) Atomic sentences are sentences about particulars.

This view not only enables Russell to sustain (AB) and (PROP); it is also of a piece with his (new) theory of types, according to which particulars and universals are entities of different types, so that what can be said (truly or falsely) about a particular cannot be said (truly or falsely) about a universal. On Russell's new approach, the difference between general and atomic sentences is not that they are making claims about the same entities in different ways ('indirectly' versus 'directly') but rather that they are making different sorts of claims about different sorts of entities.⁴²

On this new account, Russell meets not only desideratum (D1) but also desiderata (D2)–(D4). Thus, in accord with desideratum (D2), a general sentence is not about the denotation of the denoting phrase in it but is rather about universals; in accord with desideratum (D3), no constituent of a conceptual content obeys (DC₂), and Russell can continue to accept (CC) and (AB*);⁴³ and in accord with desideratum (D4), Russell now rejects (DC₃) and (17), thereby enabling him to continue to accept (OP) along with (SI). In particular, as against (DC₃), he denies that a denoting phrase contributes its denotation to its factual content; hence, as against (17), he denies that (15) and (16) express the same factual content. For while (16) continues to express the factual content in which the relation of identity relates Scott to Scott, (15) is to be analysed as

(24) (
$$\exists x$$
) (x wrote Waverley & ($\forall y$)(y wrote Waverley $\rightarrow y = x$) & $x = \text{Scott}$),

understood now as making a claim about the universal *writing Waverley* – namely, that one and only one entity satisfies this universal and that that entity is Scott. Thus, as against the theory of denoting concepts, Russell

now holds that (15) and (16) do not merely express different conceptual contents; they also express different factual contents, since they are making different claims about different entities.⁴⁴

Hence, by denying that universals (or propositional functions) obey (DC_2) , and by recasting his distinction between general and atomic sentences in terms of (G^*) and (A^*) , Russell restores his Moorean views (PROP) and (AB) and meets desiderata (D1)–(D4), thereby enabling him to accept (CC), (AB^*) , (OP), and (SI) without contradiction.

Analysis and logical form after 'On Denoting'

I have argued that prior to OD Russell accepts

(SUBJ) The sole contribution of a grammatical subject to a proposition it helps to express is a logical subject,⁴⁵

along with

(VERB) The sole contribution of a grammatical verb to a proposition it helps to express is a logical verb.

And I have argued that prior to *OD* Russell recognizes cases resulting from the analysis of grammatical verbs in which the surface form of that sentence differs from its logical form. In *OD*, Russell holds, as against the theory of denoting concepts, that the logical form of a general sentence differs from its grammatical form; however, he reaches this conclusion not by proceeding, in accord with (SUBJ) and (VERB), by showing what complex logical subject or verb is contributed to a proposition by a grammatical subject or verb of a general sentence. Rather, he reaches this conclusion by arguing that denoting phrases – the grammatical subjects of general sentences – violate (SUBJ). In doing so, Russell recognizes a new sort of way in which the surface form of a sentence differs from its logical form, and he introduces a new style of analysis.

First, in OD, Russell holds that the grammatical form of a general sentence differs from its logical form. By (GF)/(LF), the grammatical form of a sentence S differs from its logical form if and only if the grammatical form of S differs from the grammatical form of a sentence which provides the full analysis of S. On the theory of denoting concepts, Russell held that

(9) a is G

provides the full analysis of (the factual content expressed by)

(10) The F is G

(where 'a' names the denotation of 'the F'), and he also held that (9) and (10) have the same grammatical form. Thus he held that the surface form of (10) is the same as its logical form. By the time of writing OD, Russell holds that the full analysis of (10) is given by (23), while he continues to hold that (10) has the same grammatical form as (9).⁴⁶ Thus, he now holds that the surface form of (10) differs from its logical form: whereas its surface form suggests that it expresses the proposition expressed by (9) – a proposition ascribing a universal to a particular (its logical subject) – it really expresses the proposition expressed by (23) – a proposition (on Russell's 1910–12 analysis, at least) relating two universals.⁴⁷

In recognizing this new case in which the grammatical form of a sentence differs from its logical form, Russell has not argued that either the grammatical subject of (10) or its grammatical verb symbolizes a complex logical subject or verb; rather, he has proceeded by arguing that, contrary to (SUBJ), the grammatical subject of (10) – the denoting phrase 'the F' – does not contribute solely a logical subject to the proposition it expresses. This is the force of his denying that (10) is about the 'denotation' of that denoting phrase: if it were about the denotation of that phrase, then all that that phrase would be contributing to the proposition it expresses would be a logical subject, in which case (10) would have the same logical form as (9). And if (10) is not about the denotation of 'the F', then, for Russell, the logical form of (10) differs from its grammatical form; for, according to Russell, by virtue of its surface form (10) does seem to be about the denotation of 'the F'.

More specifically, by 1910-12, Russell holds that while the grammatical subject of (10) – the phrase 'the F' – contributes to the proposition expressed (via the linguistic predicate 'F') the universal being F, which is here a logical subject of that proposition, it also contributes to that proposition (via the word 'the') part of what is being said about that universal – namely, that that universal has exactly one instance. Thus, contrary to (SUBJ), Russell now holds that the grammatical subject of (10) does not serve simply to symbolize a logical subject of that sentence, but also to symbolize part of what is being said by that sentence about that logical subject.

On this reading, when Russell claims in *OD* that 'denoting phrases never have any meaning in themselves, but . . . every proposition in whose verbal expression they occur has a meaning' (480), he is denying that a denoting phrase serves to contribute only a logical subject to the proposition expressed. Prior to *OD*, by accepting (SUBJ) along with (VERB), Russell held that each grammatical subject and grammatical verb of a sentence serves to symbolize either a (simple or complex) logical subject or a (simple or complex) logical verb. Such expressions might be said to have 'meaning in themselves' in that they symbolize entities (simple or complex) which have a single, identifiable logical role – that of logical subject or logical verb. After *OD*, by contrast, Russell denies that denoting phrases function

in that way: now he holds that such expressions contribute, in a given sentence, to the symbolization of both a logical subject and what is being predicated in a given sentence of that logical subject.⁴⁸ And in that case, it is misleading to speak of such expressions as having a 'meaning in themselves' and better to separate out, in the sentences in which they occur, the different contributions they make to determining logical subjects and to determining what is being said about those logical subjects.⁴⁹

In coming to think that there are grammatical subjects of sentences which do not obey (SUBJ), Russell recognizes a new kind of analysis, which does not consist of identifying the simple constituents of complex entities. As long as grammatical subjects were held to contribute only logical subjects (simple or complex) to propositions, analysis could only reveal whether the logical subjects contributed were simple or complex. Hence, since numerals function as grammatical subjects, analysis could reveal only whether numbers – the logical subjects contributed by numerals to propositions – are simple entities (as on the Moorean philosophy) or complex entities (as on logicism); but, in either case, numbers are entities, and analysis will tell us exactly *what* entities they are – whether numbers have constituents and if so, what they are.⁵⁰

However, now that grammatical subjects need not obey (SUBJ), a grammatical subject may help express a proposition even when there are no entities at all of the sort which seem to be symbolized by that grammatical subject. The most prominent examples of this for Russell after OD are class symbols. These symbols function as grammatical subjects; hence, on Russell's pre-OD conception of analysis, if the sentences in which these symbols occur are to express propositions (are to be either true or false), classes must be genuine entities corresponding to these symbols. After OD, Russell can hold that class symbols contribute to the expression of propositions even though there are no classes at all in the universe. Here, Russell is not treating classes as complex entities composed of other, simple entities; and he is not telling us what, metaphysically, classes are. Instead, by treating class symbols as 'incomplete symbols' - as grammatical subjects which fail to obey (SUBJ) – Russell can analyse sentences which seem to be about classes without having to hold that there are in the universe entities – simple or complex – which are classes.⁵¹

Conclusion

I have argued, as against Hylton, that the view that the surface form of a sentence may differ from its logical form is not, for Russell, new to OD. And I have argued, as against Neale, that the view that sentences of the form 'The F is G' are general, not atomic, is not, for Russell, new to OD. What is new, for Russell, in OD, I have argued, is the use of the distinction between surface form and logical form to explain the distinction between general and atomic sentences; and what is also new is the

introduction of a style of analysis which enables him not merely to decompose complex entities into their simple constituents but also to dispense altogether with unwanted entities. Further, I have attempted to make clear how, by identifying basic commitments in Russell's philosophy – commitments which indeed led him prior to OD to distinguish grammatical from logical form and general from atomic sentences – one can understand not only what, from Russell's perspective, is novel about OD but also how, for Russell, the theory introduced in OD and developed in 1910–12 solves genuine difficulties in his philosophy. Whether the characteristic doctrines of OD are defensible independent of the Russellian context out of which they emerge is a further question, which I have not here attempted to address.⁵²

Notes

- 1 See, for example, Kaplan (1966: especially 230ff.) and, more recently, Neale (1993).
- 2 See also, for example, Kaplan 1966: 229f.
- 3 When I refer to 'the Moorean Russell' or 'the post-Peano Russell', I intend only to be identifying a certain period in Russell's development, not to be making any claims concerning the views of Moore or Peano.
- 4 There are many passages in which Frege seems to deny that the 'content' expressed by a sentence admits of such a unique analysis into ultimate simple constituents (see, for example, 1980: 101). Dummett has argued (see, for example, 1981: Ch. 15) that, despite appearances to the contrary, Frege is committed to the view that the 'content' or 'thought' expressed by a sentence admits of an ultimate unique analysis. If, however, Dummett is wrong, then Frege's conception of analysis is very different from Russell's. See also nn. 9 and 29 below.
- 5 On this interpretation, Russell holds that for a word to be philosophically indefinable just is for that word to stand for a metaphysically simple entity. Compare Sainsbury (1979: 41–56) for a different account of the relation between indefinability and simplicity.
- 6 For this use of 'verb', see *PoM*: 49; and, later, 1911b: 107f. When I speak of the 'verbs' of a proposition, I am concerned (to put it in the terminology of *PoM*) only with verbs functioning 'as verbs', not with verbs functioning as subjects, in that proposition (see p. 86f.).
- 7 In the published version of *PoM*, Russell recognizes no type-distinctions (except in the hastily added Appendix B) and even regards (material) implication as a relation which is well defined for any two entities (see *PoM*: 15). In my paper 'Russell's Pre-Peano Theory of Types' (in preparation), I argue that, during his pre-Peano Moorean phase (during which he wrote a complete draft of *PoM*), Russell accepted type-distinctions. See also next note.
- 8 See, for example, 1899–1900 at p. 94: '[A] proposition must contain two terms at least, and the proposition constitutes a relation between them.' Consequently, Russell holds that subject–predicate propositions are themselves relational (see, for example, 1900b: 229f.). On this view, the proposition 'Socrates is human' may be represented more transparently as 'Pred (Socrates, *human*)' in which the relation of predication relates (the referent) Socrates to (the relatum) *humanity* (functioning predicatively). Further, for the Moorean Russell, while the relation of predication can take any entity (thing, predicate, or relation) as referent, it can

- only take a predicate as relatum; and this view conflicts with the type-free metaphysics of *PoM*, according to which any relation can take any entity as either referent or relatum. It is in part for this reason that in PoM Russell holds that subject–predicate propositions are not relational (see *PoM*: 94, second note). By 1911, after he had accepted type-theory in PM, Russell was willing to reconsider the view that 'predication is a relation involving a fundamental logical difference between its two terms' (1911b: 123; see also 1984: 90). I deal further with these issues in the article (in preparation) referred to in the previous note.
- 9 Russell's view that each proposition has a unique logical form follows from his view that each proposition admits of a unique ultimate analysis into the entities it is about and what is being said about them. There are many passages in which Frege seems to reject this view (see, for example, 1892: 188f.); if he does indeed reject it, then Russell's conception of logical form, and of the distinction between surface form and logical form, is not endorsed by Frege. See nn. 4 and 29.
- 10 See, for example, Russell 1993: Part II; and PoL: Ch. X. In my 1998a, I argue that the defence of absolute theories of serial order is the unifying theme of Russell's Moorean philosophy.
- 11 This is not the only case, on the absolute theory of time, in which the surface form of a sentence differs from its logical form. Thus, on the absolute theory, 'Event e_1 is before event e_2 ' is to be analysed as 'There are moments m_1 and m_2 such that $At(e_1, m_1)$ & $At(e_2, m_2)$ & $Bef(m_1, m_2)$ '; more generally, any sentence which seems to assert a temporal relation between two events will fail to be fully transparent and will have a misleading grammatical form.
- 12 Thus, in considering Russell's views, it is important, as Dummett in effect emphasizes (1998: 386f.) in discussing Frege, to distinguish the relation between (N) and (N^{**}) from the relation between (N) and (N^{*}) .
- 13 I discuss this in more detail in my 1998a.
- 14 See Kaplan 1966: 239.
- 15 The definitions of 'greater' and 'less' between cardinal numbers (see *PoM*: 122), for example, will also introduce cases where the surface form of sentences differs from their logical form. But the application of logicist-style techniques to defend other relative theories of order will involve fewer departures from logical form. Thus, on the relative theory of time, which Russell came to defend, *simultaneity* will be indefinable and sentence (T) (p. 81) will be fully transparent.
- 16 The distinction I draw here between the factual and conceptual content of a sentence is similar to that which Demopoulos draws between the proposition 'asserted' and the proposition 'expressed' by a sentence (1999: 441f.).
- 17 Similarly, Sainsbury remarks that in *PoM* 'nothing . . . limits what can be demonstrated' (1979: 25).
- 18 See PoM: 45. The same distinction between entities which can only occur 'as subjects' or 'as terms' and entities which have a 'two-fold use' appears in Russell's Moorean philosophy (see, for example, 1898: 171; 1899c: 281).
- 19 Thus, Russell compares 'a name in the narrow sense, such as "Arthur Balfour"' with 'a description, such as "the present Prime Minister of England" (1903d: 315). See also 1903b: 285, where Russell claims that while 'Apollo appears to be [a proper name]' it is not a 'genuine proper name'; and again 1903d: 318, where he writes that 'Odysseus' and 'Utopia' 'appear to be proper names, but as a matter of fact are not so'. Thus not only does Russell's claim that definite descriptions are not 'genuine proper names' pre-date OD, so too does his view that fictional names, being disguised descriptions, are not genuine names
- 20 Given that there are now cases in which the factual content of a sentence is distinct from its conceptual content, it is not surprising that Russell is inconsis-

- tent, during this period, in his use of the term 'proposition'. Sometimes he identifies the 'proposition' expressed by a sentence with its factual content (see, for example, 1903c: 298f.; and 1905a: 366), and sometimes with its conceptual content (see, for example, 1903d: 327f.; and 1905a: 386).
- 21 Sic, but much later Russell was to remark on Urmson's example 'England declared war in 1939' that 'one infers he is not a Scot' (1959: 223).
- 22 In order to sustain (AB*) in this way, Russell needs to maintain consistent with the type-free metaphysics of *PoM* that for every entity there is an *atomic* sentence about that entity. I argue below that once he comes to accept his type-theory Russell comes also to hold that atomic sentences are only about particulars and that we can speak about universals only by means of general sentences.
- 23 Thus, Russell writes that 'England [which is part of the denoting concept expressed by "the present Prime Minister of England"] is not part of Mr. Arthur Balfour' (1903d: 320).
- 24 Noonan (1996: 65-8) argues similarly.
- 25 Hylton claims that on the theory of denoting concepts Russell can 'deny that the present King of France has being' (1990: 241). If he means by this that Russell holds that sentences of the form 'The *F* has being' are false when the phrase 'the *F*' has no denotation, I disagree. For even though Russell can allow that such a sentence may have a conceptual content, he will still hold that the sentence purports to be about the denotation of 'the *F*', in which case if the denoting phrase has no denotation, the sentence will have no truth-value. To allow sentences to have truth-values when the denoting phrases in them seem to have no denotation, Russell provides stipulated denotations in such cases. See, for example, 1904a: 89; see also his 1904 letters to Jourdain in Grattan-Guinness (1977: 31–4). In *OD*, Russell criticizes this procedure as 'plainly artificial' (*OD*: 484).
- 26 Likewise in *PoM* (74), Russell indicates that the sentence 'Chimaeras are animals' has no truth-value (expresses no proposition, in the sense of 'factual content') because the sentence fails to be about anything. Here, I agree with Oliver 1999: 264 (this volume: p. 154) on the interpretation of this passage.
- 27 I have discussed this argument at greater length in my 1998b. See also Kremer 1994, Noonan 1996 (especially 79–82), and Demopoulos 1999 for discussion of related issues.
- 28 I believe that the argument I discuss in this section is central to the so-called 'Gray's Elegy argument' in *OD*, especially the final two paragraphs of that argument; but I will not attempt to defend this exegetical claim here.
- 29 Gödel claims that accepting (DC₁) and thus (17) 'leads almost inevitably to the conclusion that all true sentences have the same signification (as well as all false ones)' (1944: 128f.) – in the terminology I have been using, that all true sentences have the same factual content (and likewise all false sentences); and he suggests as well (ibid.:130) that it was in order to avoid that conclusion that Russell introduced his theory of descriptions which, as I discuss below, rejects (DC₃) and (17). I disagree: not only is there no evidence that Russell introduced the theory of descriptions to avoid that conclusion, but also, more importantly, Russell is not committed to it on the theory of denoting concepts. For as Gödel notes (and Neale 1995 spells out in more detail) a further assumption, besides (DC₃), needed to reach that conclusion is that the corresponding sentences 'Fa' and 'a = the x such that (Fx & x = a)' express the same factual content. But, for Russell, such sentences will not express the same factual content: 'Fa' expresses a factual content about the entity designated by 'a' and attributes to that entity the property signified by the predicate 'F'; but, on the theory of denoting concepts, 'a = the x such that (Fx & x = a)', if true, expresses a factual

content in which the relation of identity is asserted to hold between a and itself. Given Russell's general view that each factual content admits of a unique ultimate decomposition into the entities it is about and what is being said about them, he cannot hold that such sentences express the same factual content, even if he allows that they are 'equivalent'. Frege, who seems to reject Russell's view of analysis (see nn. 4 and 9 above), may hold that such sentences express the same 'content', and thus is vulnerable to the argument, prior to his distinction between Sinn and Bedeutung, that all true sentences have the same 'content'. Olson (1987: Ch. 4) discusses how differences between Russell's and Frege's conceptions of analysis impact on their vulnerability to Gödel's 'slingshot' argument.

- 30 Neale sometimes suggests that the central purpose of the theory of descriptions is to provide an analysis of sentences of form (10) so that they have truth-conditions when phrases of the form 'the F' have no denotation (see his 1990: Ch. 2; and 1993, throughout). I am claiming that, for Russell, an account of the truth-conditions of such sentences is not sufficient for his task; for, given his general view of analysis, Russell is obliged to provide an ultimate account of what such sentences are about and of what entities we need to be acquainted with in order to understand them. Whereas Neale sometimes seems indifferent to the question whether general sentences are about properties or sets (see 1990: 39ff.), Russell cannot be indifferent to this question. See n. 44 below.
- 31 Thus Russell writes: '[T]he variable and everything that contains a variable . . . must be denoting concepts' (1905a: 381). See also, for example, 1903d: 330, 342, for discussions of the variable and propositional functions as denoting concepts.
- 32 See 1905a: 385ff., especially §§ 43, 44, 47.
- 33 For details, see Landini 1998, especially Ch. 5.
- 34 Thus Landini writes that immediately after *OD* 'Russell shelves the problem as to what are the constituents of general propositions' (1998: 7).
- 35 As Church has noted (1976: 748n.), there is an apparent problem in reconciling the claim of *PM* that propositions are not genuine entities with the claim that propositional functions are. See the references in n. 38 below for further discussion of the status of propositional functions in *PM*. Note, however, that denying that propositions are genuine entities does not undermine Russell's general projects of identifying the entities which a sentence is about and of identifying the entities with which we must be acquainted in order to understand that sentence; for these projects are independent of the specific claim that propositions are 'unified entities'.
- 36 Thus compare Russell's language in *PM* (40) with 1904b (112, 114), where he similarly characterized propositional functions as ambiguously denoting their values.
- 37 Contrast *PoM*: '[F]ormal implication . . . does not, as might be thought at first sight, assert a relation between two propositional functions' (84).
- 38 For discussion of some of these issues, see Cocchiarella 1980 and Linsky 1999: Ch. 2.
- 39 In both *PoP* and 1911a Russell defends his 'principle of acquaintance' that 'every proposition which we can understand must be composed wholly of constituents with which we are acquainted' by writing that 'it seems scarcely possible to believe that we can make a judgment or entertain a supposition without knowing what it is that we are judging or supposing about' (1911a: 219; *PoP*: 58). Thus, Russell is, in effect, defending (CC) by citing (AB) something he could not do on the theory of denoting concepts, where he accepted (CC) but rejected (AB), by admitting entities which obey (DC₁) and (DC₂).

- 40 Compare with *PoM*: 'When we say men are mortals, it is evident that we are saying something about men, not about the concept *man* or the predicate *human*' (79; see also 90). In *PoM*, that is, Russell held, as against (AB), that 'All men are mortal' is indeed about individual humans, entities which are not constituents of the conceptual content we apprehend in understanding the sentence; by the time of *PoP*, on the other hand, he holds, in accord with (AB), that this sentence is about universals which are constituents of the conceptual content which we apprehend in understanding it. I am not concerned here to assess Russell's 1912 view that 'All men are mortal' is about universals and not about individual human beings (or other particulars) only to point out how it solves problems which beset his theory of denoting concepts.
- 41 Accordingly, in his lectures on logical atomism, Russell writes that 'the components of the fact which makes a proposition true or false, as the case may be, are the *meanings* of the symbols which we must understand in order to understand the proposition' (1918: 196), thereby identifying the constituents of the factual content of a sentence with the constituents of its conceptual content. In reinstating his Moorean view (PROP), however, Russell does not at the same time reinstate (AU) (see the next note).
- 42 At the outset of *OD*, Russell writes that we 'succeed in thinking *about* many things with which we have no acquaintance' (480). I am claiming that by 1910–12 Russell can no longer hold this. While he remains very much concerned with the problem how we can 'reach' in thought entities with which we cannot be acquainted (see, for example, *PoP*: 107–9; and 1984: 10–14), he can no longer claim that the general sentences through which we 'reach' such entities are 'about' those entities; rather, he has to claim that those general sentences are about universals with which we are acquainted.
- 43 Now, as opposed to on his earlier view, in order to speak directly about a universal, we will have to understand a general sentence about that universal. On the theory of denoting concepts, we could not speak directly about entities by means of general sentences; so to maintain (AB*), he had to hold consistently with his rejection of type-theory that for each entity there are atomic sentences about that entity (see n. 22 above). By 1912, Russell can maintain (AB*) along with type-theory by holding that general sentences are directly about universals.
- 44 In *PM* (72–5) and again in 1918 (265f.) and 1919 (185–8), Russell argues, in effect, that in order to sustain (OP) and (SI), conceptual contents containing propositional functions as constituents must be viewed as being about those propositional functions themselves, not about any entities (such as classes) which those propositional functions might be viewed as denoting.
- 45 During his Moorean phase, and again by 1910–12, Russell accepts (PROP), according to which there is no need to distinguish factual from conceptual content. On the theory of denoting concepts, Russell accepts (SUBJ), understood as the view that the sole contribution of a grammatical subject to a factual content it helps to express is a logical subject.
- 46 As Oliver (1999; this volume: Ch. 5) emphasizes, the assumption common throughout Russell's development that denoting phrases are grammatical subjects and hence that sentences such as (9) and (10) have the same grammatical form is far from universally accepted.
- 47 It is not central to my concerns whether Russell holds that (23) (and hence (10)) is a claim about two universals or one; all that matters is that he denies that (23) (and hence (10)) is a claim about a particular. For (given his type-theory) that is all that is needed to establish that the logical form of (10) differs from its grammatical form.

- 48 By claiming that Russell accepts (SUBJ) and (VERB) prior to *OD* and rejects (SUBJ), at least, after *OD*, I agree with Hylton (1990: 268) that, prior to *OD*, Russell accepts the 'logical units' of a sentence its grammatical subjects and grammatical verbs as corresponding (albeit not perhaps transparently) to 'logical units' of the proposition expressed; and that after *OD*, Russell denies this. However, as against Hylton, I have argued that even when he accepted (SUBJ) and (VERB), and thus accepted a correspondence between the 'grammatical units' of a sentence and the 'logical units' of the proposition expressed, Russell could and did recognize cases in which the grammatical form of a sentence differs from its logical form.
- 49 The interpretation I am presenting is opposed to that of those who argue that on Russell's theory definite descriptions function as second-level functions and thus, as against what Russell claims, have 'significance on their own account' (see, for example, Miller 1998: 61f., 311 n. 45). If phrases of the form 'the *F*' signify second-level functions, then they serve a purely predicative function and thus symbolize only logical verbs. On the reading I am suggesting, the reason why Russell denies that denoting phrases have any 'significance on their own account' is that he denies that they serve to symbolize only logical subjects or logical verbs.
- 50 Likewise, when Russell denies in his Moorean phase that there are any equivalence relations (see, for example, 1899a: 145; 1899–1900: 93f.), he is really maintaining that equivalence relations are complex entities and thus are not among the ultimate constituents of the world. Prior to *OD*, Russell cannot make true denials of being (see n. 25 above). Consistently with this, analysis prior to *OD* is a matter of determining which entities are simple and which are complex it is not a matter of deciding absolutely that there are in the universe no entities of a given sort.
- 51 Here I agree with Hylton 1989 (100f.), against Hylton 1990 (266f.), that eliminative analyses afforded by the notion of an 'incomplete symbol' are unavailable to Russell on his theory of denoting concepts. On the theory of denoting concepts, if a class symbol is to function as a grammatical subject, it will only be by an admittedly artificial procedure that that sentence may express a factual content where there is no class corresponding to that grammatical subject (see n. 25 above); for the post-*OD* Russell, the introduction of the notion of an 'incomplete symbol' is supposed to show how the use of grammatical subjects without logical subjects corresponding to them need not appear as artificial.
- 52 My thanks to Richard Gaskin for helpful comments on an earlier version of this paper.

References

The date following the author's name is that of the original publication or manuscript. In some cases, page numbers are from a later publication given in the References.

Byrd, M. (1994) 'Part V of *The Principles of Mathematics*', *Russell*, n.s. 14: 47–86. Church, A. (1976) 'Comparison of Russell's Resolution of the Semantical Paradoxes with that of Tarski', *Journal of Symbolic Logic* 41: 747–60.

Cocchiarella, N. (1980) 'The Development of Logical Types and the Notion of Logical Subject in Russell's Early Philosophy', reprinted in his *Logical Studies in Early Analytic Philosophy*, Columbus, Ohio: Ohio State University Press, 1987: 19–63.

- Davidson, D. (1968) 'On Saying That', reprinted in his Inquiries into Truth And Interpretation, Oxford: Clarendon Press, 1984: 93–108.
- Demopoulos, W. (1999) 'On the Theory of Meaning of "On Denoting", Noûs 33: 439-58.
- Dummett, M. (1981) The Interpretation of Frege's Philosophy, Cambridge, Mass.: Harvard University Press.
- (1998) 'Neo-Fregeans: In Bad Company?', in M. Schirn (ed.) The Philosophy of Mathematics Today, Oxford: Clarendon Press: 369-87.
- Frege, G. (1892) 'On Concept and Object', reprinted in B. McGuinness (ed.) Frege: Collected Papers, Oxford: Blackwell, 1984: 182-94.
- (1980) Philosophical and Mathematical Correspondence, Chicago: University of Chicago Press.
- Gödel, K. (1944) 'Russell's Mathematical Logic', in P. A. Schilpp (ed.) The Philosophy of Bertrand Russell, LaSalle, Illinois: Open Court: 125-53.
- Grattan-Guinness, I. (1977) Dear Russell Dear Jourdain, New York: Columbia University Press.
- Hylton, P. (1989) 'The significance of "On Denoting", in C. Wade Savage and A. Anthony Anderson (eds) Rereading Russell, Minneapolis: University of Minnesota Press: 88–107.
- (1990) Russell, Idealism and the Emergence of Analytic Philosophy, Oxford: Clarendon Press.
- Kaplan, D. (1966) 'What is Russell's Theory of Descriptions?', reprinted in D. F. Pears (ed.) Bertrand Russell: A Collection of Critical Essays, Garden City, NY: Doubleday Anchor, 1972: 227-44.
- Kremer, M. (1994) 'The Argument of "On Denoting", The Philosophical Review 103: 249-97.
- Landini, G. (1998) Russell's Hidden Substitutional Theory, New York/Oxford: Oxford University Press.
- Levine, J. (1998a) 'From Absolute Idealism to The Principles of Mathematics', International Journal of Philosophical Studies 6: 87–127.
- (1998b) 'Acquaintance, Denoting Concepts, and Sense', The Philosophical Review 107: 415-45.
- (in preparation) 'Russell's Pre-Peano Theory of Types'.
- Linsky, B. (1999) Russell's Metaphysical Logic, Stanford, Calif.: CSLI Publications.
- Miller, A. (1998) Philosophy of Language, London: UCL Press.
- Neale, S. (1990) Descriptions, Cambridge, Mass.: MIT Press.
- ——— (1993) 'Grammatical Form, Logical Form, and Incomplete Symbols', in A. Irvine and G. Wedeking (eds) Russell and Analytic Philosophy, Toronto: University of Toronto Press: 97-139.
- (1995) 'The Philosophical Significance of Gödel's Slingshot', Mind 104: 761-825.
- Noonan, H. (1996) 'The "Gray's Elegy" Argument and Others', in R. Monk and A. Palmer (eds) Bertrand Russell and the Origin of Analytical Philosophy, Bristol: Thoemmes Press: 65–102.
- Oliver, A. (1999) 'A Few More Remarks on Logical Form', Proceedings of the Aristotelian Society, XCIX: 247–72 (= this volume, Ch. 5).
- Olson, K. (1987) An Essay on Facts, Stanford, Calif.: CSLI Publications.
- Russell, B. (1898) 'An Analysis of Mathematical Reasoning', in Russell (1990): 163-242.

- ——— (1899a) 'The Classification of Relations', in Russell (1990): 138–46.
- —— (1899b) 'The Axioms of Geometry', reprinted in Russell (1990): 394–415.
- ——— (1899c) 'The Fundamental Ideas and Axioms of Mathematics', in Russell (1990): 265–305.
- ——— (1899–1900) 'The Principles of Mathematics, Draft of 1899–1900', in Russell (1993): 15–180.
- (1900a) A Critical Exposition of the Philosophy of Leibniz, London: George Allen & Unwin Ltd.
- (1900b) 'Is Position in Time Absolute or Relative?', in Russell (1993): 222–33.
- (1903a) *The Principles of Mathematics*, Cambridge: Cambridge University Press.
- ——— (1903b) 'On the Meaning and Denotation of Phrases', in Russell (1994): 284–96.
- —— (1903c) 'Dependent Variables and Denotation', in Russell (1994): 298–304.
- ——— (1903d) 'On Meaning and Denotation', in Russell (1994): 315–58.
- ——— (1904a) 'On Functions, Classes and Relations', in Russell (1994): 86–95.
- ——— (1904b) 'Fundamental Notions', in Russell (1994): 112–259.
- (1905a) 'On Fundamentals', in Russell (1994): 360–413.
- ——— (1905b) 'On Denoting', *Mind* 14: 479–93, reprinted in Russell (1994), with original pagination numbers in the margins, to which I refer.
- ——— (1906) 'On "Insolubilia" and their Solution by Symbolic Logic', reprinted in Russell (1973): 190–214.
- ——— (1911a) 'Knowledge by Acquaintance and Knowledge by Description', reprinted in his *Mysticism and Logic*, London: Longmans, Green and Co., 1919: 209–32.
- ——— (1911b) 'On the Relations of Universals and Particulars', reprinted in Russell (1956): 105–24.
- ——— (1911c) 'The Philosophical Implications of Mathematical Logic', reprinted in Russell (1973): 284–94.
- ——— (1912) *The Problems of Philosophy*, Oxford: Home University Library. (Page references are to the 1959 Oxford University Press paperback edition.)
- ——— (1918) 'The Philosophy of Logical Atomism', reprinted in Russell (1956): 175–281.
- (1919) Introduction to Mathematical Philosophy, London: George Allen & Unwin.
- ——— (1956) Logic and Knowledge, ed. R. Marsh, London: George Allen & Unwin.
- ——— (1959) My Philosophical Development, New York: Simon & Schuster.
- ——— (1973) Essays in Analysis, ed. D. Lackey, New York: George Braziller.
- —— (1984) *Theory of Knowledge: The 1913 Manuscript*, ed. E. Eames, London: Routledge.
- (1990) Collected Papers of Bertrand Russell: Volume II, ed. N. Griffin, London: Routledge.
- (1993) Collected Papers of Bertrand Russell: Volume III, ed. G. H. Moore, London: Routledge.
- ——— (1994) Collected Papers of Bertrand Russell: Volume IV, ed. A. Urquhart, London: Routledge.
- Sainsbury, R. M. (1979) Russell, London: Routledge & Kegan Paul.

- Whitehead, A. N. and Russell, B. (1910) Principia Mathematica: Volume I, Cambridge: Cambridge University Press.
- Wittgenstein, L. (1922) Tractatus Logico-Philosophicus, transl. B. McGuinness and D. Pears, London: Routledge & Kegan Paul, 1961.

4 Grammar, ontology, and truth in Russell and Bradley

Stewart Candlish

The transparency thesis, the theory of descriptions, and the usual story

I begin with a well-known passage from The Principles of Mathematics:

The study of grammar, in my opinion, is capable of throwing far more light on philosophical questions than is commonly supposed by philosophers. Although a grammatical distinction cannot be uncritically assumed to correspond to a genuine philosophical difference, yet the one is *primâ facie* evidence of the other, and may often be most usefully employed as a source of discovery. . . . On the whole, grammar seems to me to bring us much nearer to a correct logic than the current opinions of philosophers; and in what follows, grammar, though not our master, will yet be taken as our guide.

(Russell 1903: §46)

It is clear enough what Russell's principal claim is here: with some exaggeration (the needed qualifications are obvious), it can be thought of as the thesis of the logical transparency of grammar. I shall call it, more briefly, the transparency thesis. What this thesis comes to in practice is a matter of some complexity; at present it suffices to say that the grammatical categories which Russell thought of philosophical importance are those of proper name, adjective, and verb (plus one more, which I shall come to in the next section). A little less apparent than this principal claim, though, is the passage's gesture at one of the major influences on the development of twentieth-century philosophy: Russell's defection from the ranks of the idealists. For these are the 'philosophers' whose common suppositions and current opinions are mistaken about the status of grammar, and from whom Russell is distinguishing himself in this profession of faith in grammar's general philosophical transparency. And the idealist who figured above all in Russell's imagination as representative of the whole tribe was F. H. Bradley.

The picture we are implicitly presented with in this passage, then, is of two philosophers with contrasting attitudes to grammar, whose major

differences over logical matters can be diagnosed in terms of the fact that Russell subscribes to the transparency thesis while Bradley denies it. But matters are more complicated than that, and sorting out the differing attitudes of the two philosophers to grammar takes us to the heart of some of the tangled disputes which formed a turning point in twentieth-century philosophy.

The first complication is that Russell soon changed his attitude to the transparency thesis, yet without relenting in his opposition to Bradley. If one were to accept the usual story of the origins of the theory of definite descriptions, the change could be summarized like this: through the theory of descriptions, Russell moved from holding to abandoning the transparency thesis.

What is that usual story? In the less unscholarly versions,⁴ it begins by noticing some striking further remarks from *The Principles of Mathematics* itself:

Whatever may be an object of thought, or may occur in any true or false proposition, or can be counted as *one*, I call a *term*. . . . [E]very term has being, *i.e.* is in some sense. A man, a moment, a number, a class, a relation, a chimaera, or anything else that can be mentioned, is sure to be a term; and to deny that such and such a thing is a term must always be false.

(Russell 1903: §47)

I shall speak of the *terms* of a proposition as those terms, however numerous, which occur in a proposition and may be regarded as subjects about which the proposition is.

(ibid.: §48)

Being is that which belongs to every conceivable term, to every possible object of thought – in short to everything that can possibly occur in any proposition, true or false, and to all such propositions themselves. . . . Numbers, the Homeric gods, relations, chimeras, and four-dimensional spaces all have being, for if they were not entities of a kind, we could make no propositions about them. Thus being is a general attribute of everything, and to mention anything is to show that it is.

Existence, on the contrary, is the prerogative of some only amongst beings. To exist is to have a specific relation to existence – a relation, by the way, which existence itself does not have. . . . [T]he distinction between existence and being . . . is essential, if we are ever to deny the existence of anything. For what does not exist must be something, or it would be meaningless to deny its existence; and hence we need the concept of being, as that which belongs even to the non-existent.

(ibid.: §427)

Notice that amongst these claims is included what one might call the doctrine of real propositional constituents. Russell is more explicit about this doctrine at §51:

But a proposition, unless it happens to be linguistic [i.e. about words] does not itself contain words; it contains the entities indicated by words.

And §47 has already shown us that these entities are not essentially mental or intensional but may include quite everyday objects. The fact that Russell held this doctrine as well as the transparency thesis means that the philosophical significance of grammar will turn out to be ontological: grammar is a window on the world. Hence we see Russell freely using, for instance, the word 'verb' to refer to those constituents of propositions which correspond to the verbs of language.⁵

Why did Russell hold this unintuitive doctrine? It seems to have come to him from Moore, but that is merely a diagnostic answer. We get a hint of the role the doctrine played for Russell himself in a later article, where he articulates a belief which seems to have been at work in his thinking ever since his abandonment of idealism:

But in this view [that 'judgments consist of ideas'] ideas become a veil between us and outside things — we never really, in knowledge, attain to the things we are supposed to be knowing about, but only to the ideas of those things.

(Russell 1911: 155)

The answer thus appears to be that, for Russell, the doctrine of real propositional constituents establishes a link between mind and world, uniting the symbol and the symbolized, which makes it possible for us to achieve knowledge and truth. (We shall see later that he came to believe that this link needed supplementation for categorical truths to be attainable.) Here we have one of the seeds of identity theories of truth,⁶ though the seed does not bear fruit in Russell, perhaps because of the transparency thesis. In accordance with the picture suggested by this thesis of a one—one correspondence between words in the sentence and things in the proposition, his 1903 account of truth adds a property to the world to correspond to the words 'is true'. I call this the *property theory*: truth is an unanalysable property, which true propositions just possess and false ones just lack.⁷

But it seems obvious straight away that such views as these have strange ontological consequences: e.g. that there is a present King of France, one who does not exist. The usual story is as follows. According to their surface grammar, utterances of the form 'The F is G' and 'a is G' apparently pick out through the definite description 'the F' or the name 'a' a single object which the proposition is about, in such a way that should this picking out

fail, the sentence will lack meaning (so that the ontological consequences, as Russell recognized in §427, flow from the recognition of the meaning-fulness of such definite descriptions and names). The discovery of the theory of definite descriptions in 1905 was motivated by Russell's increasing wish to avoid such consequences; that discovery enabled the crucial distinction to be drawn between, on the one hand, the surface grammar of both definite descriptions and at least many grammatically proper names, and, on the other, their true logical form; and the revelation of this logical form reveals that the grammatical form of such utterances is purely a surface phenomenon which disappears under analysis, so that such picking out of a single object turns out to be inessential to the sentence's possession of meaning. This knocked a large hole in the transparency thesis.⁸

Some of Russell's own remarks have encouraged this story, and in various formulations it has been standard in the textbooks for years. Nevertheless, the story is untrue, as well as muddled by assumptions about surface grammar; and the summary based on it, that Russell moved from holding to abandoning the transparency thesis, is both exaggerated and superficial. Let us see why.

The consequences of replacing the usual story

In fact, even in 1903 Russell had noticed problems generated by combining the transparency thesis with the doctrine of real propositional constituents: for he saw immediately that such expressions as 'all men', 'some man', 'any man', 'every man', 'the man' and 'a man', despite their ability to figure in subject position in sentences like 'All men are bald', cannot be regarded as introducing terms which the proposition is about in the same way as, say, 'Julius Caesar was bald' can be said to express a proposition about Julius Caesar. For instance, the idea that there is a term any man which is somehow a man but no particular one is untenable (Russell 1903: §§56, 60). 10 At this time, Russell's way of dealing with propositions formulated using these expressions was to regard them as containing not such paradoxical objects but rather denoting concepts (which he indicates by the use of italics). This is not the place to try to explain the baffling details of the theory of denoting concepts. It is enough to indicate that the purpose of the theory is to allow propositions to contain as constituents, in lieu of terms, things that they are not about, that is, to evade the full consequences of combining the doctrine of real propositional constituents with the transparency thesis.

Russell then points out that there are denoting concepts which do not denote anything (1903: §73). This makes it possible to explain – what the transparency thesis does not explain – how one can say both truly and unequivocally 'There is no such thing as the unique solution of the equation $x^2 = 1$ '. Thus *Principles* already included an account of expressions

of the form 'the F' which permitted them to be an exception to the transparency thesis, since the function of that account was to allow, by substituting denoting concepts for problematic objects, for cases where combining that thesis with the doctrine of real propositional constituents got Russell into trouble. For example, the meaningfulness of 'The present King of France is bald' is explained, not by the present King of France's being a constituent of the proposition, but by the proposition's containing instead a denoting concept *the present King of France*. Hence the identification of propositional and sub-propositional entities was, even in 1903, not necessarily just a matter of naïvely reading off ontological commitment from the sentences of (uninflected) languages. Consequently, the usual story of the origin of the theory of descriptions is false, and there is so far no reason to suppose that the theory marks a move from holding to abandoning the transparency thesis.

Nevertheless, the shift to the theory of descriptions does mark a decisive further move away from that thesis. For the denoting concepts themselves were still peculiar entities corresponding to and identified by the original grammatical structures which had made problematic the supposition that they corresponded to objects in the first place¹³ – such concepts as any man, or the present King of France, for example. That is, although the proposition that the present King of France is bald does not contain the present King of France, it does contain the present King of France, so that the corresponding grammatical phrase is still of philosophical significance; likewise, 'any man', for example, is still regarded as a grammatical unit which has meaning in isolation and thus introduces a corresponding distinct constituent of the proposition, a denoting concept. Even Russell's 1903 apparent exception to the combination of the doctrines of transparency and of real propositional constituents did not fully break with those doctrines, then, and it was only with the new theory that the programme of eliminating dubious entities was fully carried through. 14 On the new theory, in its eventual form, these mysterious denoting concepts - and just how mysterious they are is revealed by the fact that on Russell's own principles they ought to be, like any other propositional constituent, language-independent entities available to acquaintance and capable of being assigned logically proper names; and yet they cannot be either of these things, because they can be identified only through denoting phrases¹⁵ – are replaced by a fragmented apparatus of separate propositions with quantifiers, variables and propositional functions, of which only the last could be said to bear much direct relation to the surface grammar of natural languages.

It is worth noting at this point that Russell's move to the theory of descriptions was followed in the next year by a tentative replacement of the property theory of truth with the correspondence theory, a replacement finally consolidated in 1910. This change too signifies Russell's apparently increasing estrangement from the transparency thesis, since on the correspondence theory the truth-predicate conceals a relation.

It is time to pull all this together. The usual story of the origins of the theory of definite descriptions is false, and its implications for Russell's attitude to grammar are exaggerated and superficial. Moreover, in many versions of the story, the theory is not always distinguished from its applications: in some accounts it is even presented as a theory of the elimination of proper names. But the pure theory is just a theory of definite descriptions in surface grammar (a theory that they belong *only* to surface grammar, and disappear in the process of analysis which reveals their underlying structure). There is some excuse for the muddle: Russell himself was later inclined to call various of its applications 'the theory of descriptions', and even in 'On Denoting' itself we get at the end of the paper the first hint of its broader application to some uses of proper names, when he suggests that the grammatical names of non-entities 'are denoting phrases which do not denote anything' (1905b: 425):17 'A proposition about Apollo means what we get by substituting what the classical dictionary tells us is meant by Apollo, say "the sun-god".' (This application of the theory, unlike the pure theory, involves a two-stage process. First, a grammatically proper name is eliminated, using not the theory itself but some sort of linguistic intuition, in favour of a definite description; then the definite description is in turn eliminated according to the rules of the theory. The result is thus two steps away from the original grammatical form.) Although he applied the theory in *Principia Mathematica*, it was not until 1911, under the influence of epistemological considerations, that Russell proclaimed the fully extended application of the theory to include ontologically non-reductive analyses in the philosophy of language, so that even the names of one's friends can turn out to be descriptions: 'Common words, even proper names, are usually really descriptions' (1911: 152). 18 And it is later still, again for primarily epistemological reasons, that he gets the idea of extending its application to ontologically reductive analyses of everyday objects in favour of sense-data and sensibilia (Russell 1914a).

This move to reductive analysis does not mean that Russell abandoned the doctrine of real propositional constituents. Sense-data, on his view, are real extra-mental existents, and he continued to subscribe to the doctrine until he abandoned (in 1919) the whole conception of propositions of which these views form a part. On this realist view of propositional constituents, propositions, then, are not intermediaries between the mind and the world: they belong firmly to the world, not only because their constituents do, but because they themselves are unities and hence entities in their own right.

The realist doctrine, in combination with the transparency thesis, has the effect in Russell's thought of making grammar the criterion of ontological commitment. (This result, with the element of faith in ordinary language removed, is still evident in Quine's dictum that to be is to be the value of a bound variable.) And the effect defines a position which both precedes and survives the discovery of the theory of descriptions and indeed

motivates its application in ontologically reductive analyses of propositions: what changes with that discovery is the conception of where a language's true grammar is to be found. The footnote appended to *Principles* §46, that 'The excellence of grammar as a guide is proportional to . . . the degree of analysis effected by the language considered' now appears prophetic: for only a *fully* analysed language will reveal reality's structure and constituent entities. But what is a fully analysed language?

Grammar, descriptions, and analysis

The answer to this question must wait until we look at another way in which Russell's attitude to the transparency thesis changed between 1903 and 1918. In the 1902 Preface to *Principles*, he talks of philosophical logic in terms of its enabling the mental scrutiny of entities:

The discussion of indefinables – which forms the chief part of philosophical logic – is the endeavour to see clearly, and to make others see clearly, the entities concerned, in order that the mind may have that kind of acquaintance with them which it has with redness or the taste of a pineapple.

(Russell 1903: xv)

What this comes to in practice can be seen in the remarkable discussion of the notion of *and* in *Principles* §71, where the fact that the word 'and' is meaningful is enough to motivate what is in effect a search for a corresponding thing, *and* itself.²¹ This discussion is in keeping with the procedure recommended in the words omitted from the quotation with which I began this essay:

Moreover, it must be admitted, I think, that every word occurring in a sentence must have *some* meaning: a perfectly meaningless sound could not be employed in the more or less fixed way in which language employs words. The correctness of our philosophical analysis of a proposition may therefore be usefully checked by the exercise of assigning the meaning of each word in the sentence expressing the proposition.

(ibid.: §46)

Later, Russell apparently takes back the claim that 'every word occurring in a sentence must have *some* meaning'. In the Introduction to the 1937 edition of *Principles* (x) he says, with hindsight, of this remark: 'This way of understanding language turned out to be mistaken.' But such is the grip that this 'way of understanding language' had upon him that he still could not entirely free himself from it. For in explaining the mistake he goes on:

That a word 'must have *some* meaning' – the word, of course, being not gibberish, but one which has an intelligible use – is not always true if taken as applying to the word in isolation. What is true is that the word contributes to the meaning of the sentence in which it occurs; but that is a very different matter.

The first step in the process was the theory of descriptions.

The fact that Russell's comments imply that having meaning is something which *some* words are supposed to have in isolation, others not, indicates that he was thinking in terms of his earlier contrast between names and other words, where a name is 'a simple symbol, directly designating an individual which is its meaning, and having this meaning in its own right, independently of the meanings of all other words' (Russell 1919: 174).

This gives us some sense of how Russell's partial change of mind about meaning was likely to affect his views: we should expect to find that a language in its fully analysed form (or a language which is fully analytic in its own right) is supposed to contain both some symbols for which the old views hold, and others for which they do not. And this is just what we do find. In 'The Philosophy of Logical Atomism', for example, Russell says:

In a logically perfect language, the words in a proposition would correspond one by one with the components of the corresponding fact, with the exception of such words as 'or', 'not', 'if', 'then', which have a different function. In a logically perfect language, there will be one word and no more for every simple object, and everything that is not simple will be expressed by a combination of words, by a combination derived, of course, from the words for the simple things that enter in, one word for each simple component. A language of that sort will be completely analytic, and will show at a glance the logical structure of the facts asserted or denied.

(Russell 1918: 176)

This passage reveals the influence of the 'fundamental thought' of the *Tractatus* (Wittgenstein 1922: 4.0312), that the logical constants do not represent, or go proxy for, objects. For Russell, of course, it follows from this that the understanding of the logical constants can no longer be thought of in terms of acquaintance with indefinables. Nevertheless, despite the gradual restricting of the model of understanding meanings in terms of acquaintance with objects, Russell's reluctance to abandon the idea of the philosophical significance of grammar remains obvious. Later in the same work (234), he even says that 'practically all traditional metaphysics is filled with mistakes due to bad grammar', and explains what he means with an example from the philosophy of arithmetic, denying that the numerals '1', '2', '3', and '4' are names and that 1, 2, 3, and 4 are objects. But

while Russell's language seems to be that of someone who has the notion of something like a grammatical method in philosophy, his treatment of his example reveals that the talk of grammar is superficial. One would expect that someone who thought that metaphysical error was the result of bad grammar would say, perhaps, that the first mistake was to think of the numerals as names and that the consequent second mistake was to suppose that the integers are objects. But Russell's diagnosis of the errors here puts them in precisely the reverse order, with the interpretation of the grammatical role of the numerals appearing as a consequence of a mistaken conception of the ontological status of the integers. In a set of transcribed and semi-popular lectures this could of course be the result of carelessness, but even if this is so such carelessness reveals the lack of importance that he ascribed to the grammatical diagnosis of the error: he was inclined to conceive of philosophical discovery on the model of acquaintance with an object with suitable properties for the task in hand, ²² and natural language played the part either (as in *Principles*) of providing a usually transparent medium of such acquaintance or (post-'On Denoting') of something whose surface structure turned out fairly systematically to fail to be such a medium. But in both cases grammar is conceived of as something which has to fit a set of facts to which there is independent intellectual or even quasisensory access. So his attachment to grammar does not extend here to the employment of a distinctively grammatical method in philosophy.

Still, Russell wavers a bit. In the same lectures we find him using a method that might arguably be described as grammatical (one reminiscent of Moore's 'open question' argument in *Principia Ethica*, §13):

The fact that you can discuss the proposition 'God exists' is a proof that 'God', as used in that proposition, is a description and not a name. If 'God' were a name, no question as to existence could arise.

(ibid.: 218)

But the point here remains *exclusively* grammatical, about the status of the word 'God', rather than one which uses grammar to make a philosophical claim, such as, for example, that that very status shows there to be something wrong with the ontological argument. One may wish to generalize the grammatical point, as Russell himself was willing to do, and say that most (uses of) natural-language proper names are not, logically speaking, (uses of) proper names since they do not in practice function according to the logical requirements Russell imposes on names – for example, it is possible to use them in denials of existence. In the end, though, it is epistemology which dictates Russell's characteristic agnosticism about the existence of certain entities (such as the ego); the function of his grammatical points is merely to make such agnosticism possible. Again, then, grammar is conceived not as something autonomous but as something whose job is to fit an independently identifiable reality.

Before we move on from the theory of descriptions, it is worth emphasizing that sometimes, with hindsight (e.g. Russell 1959: 84), Russell himself subscribes to part of the usual story, when he presents the theory of descriptions as freeing one from the assumption that words must stand for entities in order to be meaningful: 'The central point of the theory of descriptions was that a phrase may contribute to the meaning of a sentence without having any meaning at all in isolation' (ibid.: 85). But, as we have just seen, he puts the point thus because his conception of a name was precisely that of an expression which does have meaning in isolation. And in fact, just as such a conception of a name would lead one to expect, and despite this presentation of the theory of descriptions, the theory's real function as applied in both ontologically non-reductive and reductive analysis is to reinforce that assumption, to protect it against obvious counterexamples, by showing that, rightly understood, such words are in fact just codifications of more complex expressions, for each individual component of which the assumption holds true. Although this function, if noticed at all as a separable feature of the theory of descriptions, is likely to be associated with the famous 'fundamental epistemological principle' of 'Knowledge by Acquaintance and Knowledge by Description' (Russell 1911: 154), it in fact appears much earlier, as does the principle, in 'On Denoting' itself:

Thus in every proposition that we can apprehend (*i.e.* not only in those whose truth or falsehood we can judge of, but in all that we can think about), all the constituents are really entities with which we have immediate acquaintance.

(Russell 1905b: 427)

The theory of descriptions, then, with the proviso that the usual story about it is false, is one of the factors which led, not to the abandonment of the transparency thesis, but merely to the gradual transfer from natural to fully analysed language of Russell's faith in grammar as revelatory of ontology.²³ Already, then, we have seen enough to demonstrate that the simple contrast with which we began is a serious distortion of the truth. Let us now move on to examine another factor.

Universal propositions

This also appears in 'On Denoting'. It is the treatment of the universal proposition as hypothetical: 'Consider next the proposition "all men are mortal". This proposition is really hypothetical and states that *if* anything is a man, it is mortal', Russell says, adding in a footnote, 'As has been ably argued in Mr. Bradley's *Logic*, Book I, Chap. II' (1905b: 420). Although Russell's acceptance of this view is well known, it is not usually remarked that it too constitutes a change from the account of universal

propositions in *Principles*, where they are handled in terms of denoting concepts. Thus the proposition that all numbers are either odd or even is, on the 1903 view, about all numbers but does not contain all numbers as constituents (otherwise understanding the proposition, which requires acquaintance with its constituents, would be beyond the power of the human mind), containing instead the denoting concept *all numbers* which 'though not itself infinitely complex, yet denotes an infinitely complex object. This is the inmost secret of our power to deal with infinity' (Russell 1903: §72).²⁴ Accordingly, although the complications are fewer because there is no settled myth to be demolished, much that has already been said about the shift from denoting concepts to the theory of descriptions applies here too, in particular the remarks concerning the extent to which the change represents a departure from the transparency thesis.

By 1905, then, Russell agreed with Bradley that universal propositions containing nothing but general terms are not, despite their surface grammar, categorical truths; and, because of the familiar interdefinability of the universal and existential quantifiers in propositions via negation, he accordingly was committed to the view that no universally or existentially quantified propositions containing nothing but general terms are categorical – all turn out to be hypothetical.²⁵ That *in effect* committed him to the existence of intrinsically hypothetical facts, though only in effect, because Russell did not at this stage address the question what kinds of facts are truth-makers for hypothetical propositions: for his ontology did not yet include facts. Once he adopted the multiple relation theory of judgement and the correspondence theory of truth (see here my 1996a), however, the issue of the nature of hypothetical propositions' truth-makers naturally arose. But the upshot was not, after all, an ontology which included intrinsically hypothetical truth-makers for universal propositions; rather - to borrow Bradley's words from the chapter to which we saw Russell referring at the beginning of this section – it was that 'Truth will then refer to fact indirectly' (Bradley 1883: 46). For Bradley thought, and Russell, once he had adopted an ontology which included facts, came to think, that there are no hypothetical facts (ibid.: 46; Russell 1918: 186f.).²⁶ On the other hand, he also rejected the view that universal propositions (which are hypotheticals) have *non*-hypothetical atomic facts as truth-makers, on the grounds that 'All men are mortal' cannot be analysed as 'John is mortal and James is mortal and . . . ', since this needs completion with the universal, and hence hypothetical, proposition 'All men are among those I have enumerated' (1918: 206-8). Hence his position on truth-makers for hypothetical (and so also for universal) propositions became subject to a fundamental unclarity: are these truth-makers hypothetical or not?

There is a further difficulty for Russell in this. Once one has adopted the view that universal propositions are made true by universal facts – as we have just seen, the precise nature of these facts is unclear, but we can at least say that they are non-singular – and then adds the view that ordinary

singular propositions turn out, by application of the theory of descriptions and the interdefinability of the quantifiers, to be universal ones, singular facts are likely to disappear from one's ontology altogether, and language threatens to become decoupled from the world by reason of its consequential inability to express truths which are guaranteed not to apply to more than one case (a view which Bradley accepted with equanimity). This brings out something which had not occurred to Russell in 1903: that the doctrine of real propositional constituents, though it is precisely designed to make truth and knowledge possible, does not on its own guarantee that this will involve categorical truths about singular facts, and so does not on its own yet guarantee a genuine connection between language and world. The doctrine needed supplementation with something that would guarantee this. In *Principles* the matter is just taken for granted.

Although Russell came to follow Bradley in supposing that universal propositions are hypothetical, he did not endorse Bradley's wider claim that *all* apparently categorical statements are really hypothetical in form, an anticipation of Quine's modification of the theory of descriptions to exclude all singular terms.²⁷ Bradley anticipated too a feature of the theory of descriptions, namely the ambiguity of the denial of a statement containing a definite description:

'The King of Utopia died on Tuesday' may be safely contradicted. And yet the denial must remain ambiguous. The ground may be that there is no such place, or it never had a king, or he is still living, or, though he is dead, yet he died on Monday.

(Bradley 1883: 124f.)

But while the example is strikingly similar to Russell's own treatment of the denial of 'The present King of France is bald' (and gives the lie to his well-known jibe, 'Hegelians, who love a synthesis, will probably conclude that he wears a wig'), it differs in its significance. First (like the theory of denoting concepts, but unlike the theory of descriptions), it is not part of a worked-out account which enabled the clear and justificatory depiction of the inference from 'The man who came to dinner is an impoverished aristocrat' to 'The man who came to dinner is an aristocrat'. 28 Second, unlike Russell, Bradley does not contrast the example with a case where language goes directly to the world rather than employing general terms to capture reality indirectly. Both philosophers held that, where the world/language relation goes through descriptions, it is indirect and vulnerable to error, and that unless there were cases where the relation is not mediated by descriptions, language would not be unambiguously linked to the extra-mental world and there would be no absolute, unconditional and complete empirical truths. Bradley accepted the consequence, but its intolerability for Russell motivated him to maintain that there are indeed such exceptional cases. These exceptions are precisely those involving logically

proper names. This notion provides the needed supplementation for the doctrine of real propositional constituents: it enables the formation of sentences expressing definitely categorical judgements concerning spatio-temporal particulars with which the mind doing the judging is acquainted.²⁹ Further, Russell seems to have held that if language were not unambiguously pinned to the world by names then the only account of truth available would be a coherence theory, to which he thought there was the overwhelming objection that there could be mutually inconsistent sets of coherent and thus true propositions.³⁰ Logically proper names thus rescue the correspondence theory of truth. Further, as they are linked to their bearers by acquaintance, a relation unmediated by concepts or descriptions, they provide the possibility of absolute, unconditional and complete empirical truths which contain those bearers as constituents.

Bradley, by contrast, denies that we can ever make the subject of our judgements into a constituent of propositions: '[I]n every judgment there is a subject of which the ideal content is asserted. But this subject of course can not [sic] belong to the content or fall within it . . .' (Bradley 1883: 13). Further, the claim that the logical form of universal propositions is hypothetical functions quite differently in Bradley from the way it functions in Russell, for Bradley's view that the terms of relations are unreal and his consequent rejection of the Russellian idea that the world contains simple nameables allows no corresponding conception of a logically perfect language. In fact, on Bradley's view, grammar is a doubly bad guide for philosophers. In the first place, surface grammar misrepresents thought for the reasons he, through Russell, made familiar to us all in his treatment of the universal proposition; but, in the second place, even logical grammar is misleading, because its structures, however useful they may be for inference and proof, are utterly inadequate to the nature of experience, since according to Bradley discursive thought imposes distinctions on reality where none exist. This view that surface grammar is misleading has extensive ramifications throughout his philosophical logic, such as his suggestion that judgements contain just one idea (an extreme solution to the problem of the unity of the proposition), as against predecessors like the Port-Royal Logic, 31 and his hostility to the idea that the surface grammar's subject expression picks out the logical subject which the proposition is about: 'In their ordinary acceptation the traditional subject, predicate and copula are mere superstitions' (ibid.: 21).

Subject-predicate grammar and the status of relations

Here it is helpful to recall the simple contrast we saw presented in *The Principles of Mathematics* and which may be summarized as follows: 'Russell subscribes to the transparency thesis, while Bradley denies it.' We have already noted the shortcomings of this simple contrast with respect to Russell himself. But what about Bradley? It is certainly true that Bradley

denied the transparency thesis. But did he do so for the reasons which were attributed to him by Russell and his followers? There are two connected versions of these reasons. One is that Bradley 'rejected relations'. Another, usually given as grounds for the former, is that he subscribed to the view that all propositions are of subject–predicate form.³²

Recent commentary by authors sympathetic to Russell's side of the dispute with Bradley provides representative examples of both versions.

The first version is expressed clearly by Nicholas Griffin (1991: 183):

Although it was Russell who made this distinction [between grammatical and logical form] famous, such a distinction (though not so described) is to be found in Bradley; indeed, it is forced on Bradley by (among other things) his rejection of relations, since, from the point of view of overt grammar, some judgements are undeniably relational. Such judgements have to be reformulated in a way which eliminates the relation.

This quotation encapsulates some common misunderstandings of the dispute over relations. The talk of Bradley's 'rejection of relations' obscures the difference between (i) the rejection of the possibility that ordinary relational judgements are true, and (ii) the rejection of a philosophical account of the world's variety and relatedness which is supposed to underpin the possibility of truth for those judgements. Further, it blurs the complexity and development of his views over time.³³

In what sense, then, does Bradley reject relations? Interpretation (i) has no basis in Bradley's text. And it was not candid of Russell (nor would it be wise of his supporters) to try to use it as a stick with which to beat him, on the basis that metaphysical doctrines can simply be discarded if they conflict with everyday truths: for this strategy would have the effect of condemning Russell's rival extreme pluralist views as much as Bradley's monism.34 Interpretation (ii), on the other hand, does make sense of Bradley's text: what he consistently rejected for most of his philosophical career was the reality of relations; and, since for Bradley to be real is to be substantial, the claim of relations' unreality is simply that they are not substances (Bradley 1883: 52, 71, 187; 1893: 9; 1914: 227n., 289f.).35 As relations are not substances, there are no names of relations (contrary to Russell's assumptions from 1903 until his abandoning of the multiple relation theory of judgement in 1919). This claim, which has been found so objectionable in Bradley, attracted no such vilification when it was made by Wittgenstein:

Not 'The complex sign "aRb" says that a stands to b in the relation R', but rather, that 'a' stands to 'b' in a certain relation says that aRb'.

(Wittgenstein 1922: 3.1432; my translation)

It is thus not true that 'such judgements have to be reformulated in a way which eliminates the relational expression' (which is presumably what Griffin meant by his last sentence). All that is needed to do justice to Bradley's belief that relations are unreal is that relation-expressions not be construed as names. The point may be put in Wittgensteinian fashion: the surface grammar of relational statements is misleading, for it suggests a false picture of reality.³⁶ And this is a view which Russell, under the influence of Wittgenstein, came to share.³⁷

The second version can be found in a recent book by Anthony Grayling (1996: 33): 'One lesson he [Russell] had learned from arguing against idealism is that the surface grammar of language can mislead us about the meaning of what we say.' This remark suggests that the idealists took surface grammar at face value, and that Russell arrived at the opposing position by arguing against them; when in point of fact he learned that lesson from Bradley himself. Grayling goes on, it seems, to concur with Russell's view that the idealists took 'all propositions to be fundamentally subject—predicate in form'. (Russellian accounts of early twentieth-century disputes have soaked deeply into the collective memory of subsequent philosophers.³⁸) If this view were correct, it would sit ill with the former suggestion, since, as Bradley himself observed:

the doctrine [sc. that all propositions are of subject-predicate form] . . . is erroneous. 'B follows A,' 'A and B coexist,' 'A and B are equal,' 'A is south of B' – in these instances it is mere disregard of facts which can hold to the doctrine. It is unnatural to take A or B as the subject and the residue as predicate. And, where existence is directly asserted or denied, as in, 'The soul exists,' or, 'There is a sea-serpent,' or, 'There is nothing here,' the difficulties of the theory will be found to culminate.

(1883: 13)

Obviously, then, Bradley recognized that the surface grammar of some propositions (or judgements, to use his word) is not of subject–predicate form. Nevertheless, perhaps he thought that matters are different with their deep grammar, even though in this passage he is talking about ideas rather than words. And this is indeed how Russell got it into his head that Bradley's view was that all propositions are 'fundamentally subject–predicate in form', for Bradley regarded judgements not as linguistic but as ideal entities,³⁹ and, many times, says things like these: '[A]ll judgments predicate their ideal content as an attribute of the real' (1883: 50), and 'in every judgment there is a subject of which the ideal content is asserted. . . . We shall see that the subject is . . . always reality' (ibid.: 13). The 'ideal content' is that which belongs to thought, the real vehicle of judgements.

But it is easy to overlook the fact, as Russell did, that for Bradley this logical subject could not be (as Russell's own logical subjects were) a

constituent of the judgement. The content of judgements, according to Bradley, is at bottom entirely predicative, and the reality which is their subject does not figure as part of that content. When he says – in effect, for his language is different – that the logical form of judgement is 'Reality is such that S is P', where 'S' and 'P' both function predicatively, his view is even closer than we have already noted (p. 127) to an informal anticipation of Quine's modification of the theory of descriptions to exclude all singular terms. Closer because the expression 'Reality is such that . . .' functions in Bradley's thought as a predecessor of the formal logician's universal quantifier and variable: ⁴⁰ his formulation of the judgement can be construed as 'Everything is such that, if it is S then it is P'.

Despite all this, perhaps Russell's most noticeable use of grammatical notions is his frequent appeal to the unqualified allegation that various philosophers, especially idealists, just assumed that all propositions are of subject–predicate form. This allegation turns up over a number of years, beginning in 1900 with his *Critical Exposition of the Philosophy of Leibniz*, where Russell argues both that the assumption is false and that its falsity is a matter of utmost philosophical significance.⁴¹

Why does Russell think this grammatical doctrine so significant? The main reasons appear to be two. First, he claimed that the doctrine is peculiarly widely held:

In the belief that propositions must, in the last analysis, have a subject and a predicate, Leibniz does not differ either from his predecessors or from his successors. Any philosophy which uses either substance or the Absolute will be found, on inspection, to depend upon this belief. Kant's belief in an unknowable thing-in-itself was largely due to the same theory. It cannot be denied, therefore, that the doctrine is important. Philosophers have differed, not so much in respect of belief in its truth, as in respect of their consistency in carrying it out.

(Russell 1900: 15)42

To Kant and Leibniz, Russell explicitly adds Descartes, Spinoza and Bradley as having held to the subject–predicate account of propositions, but it is clear from the above that he thinks that almost every philosopher has done the same. This would indeed be a remarkable discovery: that most philosophers have, often presumably inadvertently, committed themselves to a particular grammatical doctrine. What is the explanation of the prevalence of this commitment? One might expect here the sort of explanation in terms of grammatical illusion with which we are familiar from Wittgenstein; but Russell offers none.⁴³

Second, he held that the doctrine is an error. This on its own does not explain why it is significant. There is something special about the error. What is it? Hylton offers the following diagnosis:

Russell, then, takes the subject–predicate view of propositions to be philosophically crucial because he identifies this view with the doctrine that relations are not real, objective, non-mental entities.

(1990: 155)

There is something right about this, but the explanation is hardly sufficient. For why should Russell have made this not exactly obvious identification? The answer to this question must surely be found in his adherence to the transparency thesis and the doctrine of real propositional constituents. Adding the subject–predicate view to these, would, in Russell's mind, entail the conclusion that relations are not real entities. And this, Russell thinks, would make all relational judgements false. Given his other commitments, the subject–predicate view has to go.

This diagnosis is borne out by the fact that over several years Russell used his allegation (that almost every philosopher had taken propositions to be, ultimately, of subject–predicate form) in an attempt to refute a range of different views on the subject of relations. Here is its occurrence in *Our Knowledge of the External World*:⁴⁴

Traditional logic, since it holds that all propositions have the subject–predicate form, is unable to admit the reality of relations: all relations, it maintains, must be reduced to properties of the apparently related terms. There are many ways of refuting this opinion; one of the easiest is derived from the consideration of what are called 'asymmetrical' relations.⁴⁵

After explaining his classification of relations, Russell goes on to produce his refutation. The argument is on page 58f., and concludes thus:

Asymmetrical relations are involved in all series – in space and time, greater and less, whole and part, and many others of the most important characteristics of the actual world. All these aspects, therefore, the logic which reduces everything to subjects and predicates is compelled to condemn as error and mere appearance. To those whose logic is not malicious, such a wholesale condemnation appears impossible. And in fact there is no reason other than prejudice, so far as I can discover, for denying the reality of relations. When once their reality is admitted, all *logical* grounds for supposing the world of sense to be illusory disappear.

The most obvious feature of these remarks is the significance claimed for Russell's argument in the last sentence quoted. Only slightly less obvious a feature is how reminiscent of Moore Russell's strategy is: undercut *an* argument for a view, and then maintain that the view's being held must be attributed to sources other than rational ones. What is not so

obvious is just how the argument is meant to work, for it is very casually stated.

Prior to the quotation, Russell's argument is that 'the question whether all relations can be reduced to predications' is to be answered in the negative, since it is clearly impossible to express propositions concerning asymmetrical relations (such as 'a is greater than b') in terms of properties:46 the best attempts we can make at such expression, e.g. through propositions such as 'The whole ab contains difference in magnitude', are 'formally incapable of explaining the facts' because they lose the information as to which of the objects is greater.⁴⁷ Restoring this information requires that we say which of the magnitudes is greater, and this means that the original relation, which was to be reduced, reappears. Whatever one thinks of this argument, it is clear that it involves a point of grammar - this time of deep grammar, where syntax is designed to display semantic function - which is that claims about asymmetrical relations cannot be expressed as predications. 48 And this grammatical point gets its philosophical importance for Russell by being given an ontological significance: it shows that the relation is real, in the sense of being an independent substance. We see here an anticipation of the notion of a logically perfect language as we saw it introduced in 'The Philosophy of Logical Atomism' (Russell 1918: 176): the ineliminability of a relational expression shows the relation to be some kind of elementary object.

This realism regarding relations is characteristic of Russell's post-idealist phase, and disappears, as a result of Wittgenstein's influence, only after the Great War. For example, in the Critical Exposition of the Philosophy of Leibniz, Russell moves unhesitatingly from noting that Leibniz regards relations ('in this third way of considering them') as 'mere ideal thing[s]' (13), through saying that Leibniz is 'denying the independent reality of relations' (14f.), to claiming that Leibniz is committed to 'the denial of relations' (15). What this so-called denial of relations comes to in Russell's mind, even though he does not here explicitly say what it means for a relation to be unreal, can be gleaned from the fact that he does not consider the possibility that relational propositions may be true even if relations are ideal. But his working criterion of reality seems to be grammatical, in at least one sense of that word. After all, no amount of empirical study of two unequal objects will cast light upon the ontological status of greater than, and Russell's view is clearly that the question of its status is settled entirely by the question of whether, say, 'a is greater than b' can be represented in subject-predicate form without crucial loss of information.

Despite the fact that Russell's criticisms of Bradley often missed their target, this represents a point in common between the two philosophers, but one obscured by their divergence in its application. The point in common is their employment of grammatical criteria for adjudicating the issue of the reality of relations. The question of relations' reality is the question of their individual substantiality. For Russell, this is settled by

deciding whether or not relational expressions are eliminable. If they are not eliminable, they must be taken to be names of some kind of objects, and his view (at least prior to his post-Wittgenstein change of mind on the subject) is that they are not eliminable. But Russell's argument is weakened both by his assumption that the only way in which they could be eliminated is by reduction to predication (whereas *Tractatus* 3.1432 displays another possibility),⁴⁹ and by his tendency to regard grammatical criteria as merely reflective of a reality to which he has independent access; moreover his argument gets simplified in its application by Russell's conception of a logically perfect language, whose categorematic expressions will have uniform semantic roles.

Bradley's view is both more complex and more extreme: even if elimination of relational expressions in favour of predication were possible (a view to which Bradley himself does not adhere), this would not amount to an elimination of relations, since, Bradley thought, predication involves a relation between subject and predicate, a relation indicated by the copula; 50 but in any case, given that he would have rejected the notion of a logically perfect language (for he held thought, and hence language, to be in principle inadequate for the presentation of reality), the ineliminability of a relational expression would still in principle leave open the question whether it had to be interpreted as indicating a substance; and, most extremely, he argued that terms of relations are unreal themselves, so that even if a language's relational expressions were ineliminable and shared with its term-expressions a uniform semantic role, this would show only that relations and their terms were on a par in all being unreal.⁵¹ However, despite the importance which both Bradley and Russell accorded to grammar, in both philosophers it is put at the service of underlying metaphysical visions. In this way they stand out sharply from Frege, whose semantics was driven by syntax.

Coda

I have been concentrating on the grammatical aspects of one of the most significant and misunderstood periods of change in the recent history of philosophy, and I have tried to bring out the explanation of one superficially odd feature of twentieth-century analytic philosophy. In part, analytic philosophy has defined its origin in terms of a reaction against idealism, presenting itself as a beacon of clarity and precision against the preceding mirk. Now that original reaction, as we have seen, had as an ingredient something which the idealists had rejected: the placing of trust in the surface grammar of natural languages. Yet analytic philosophy itself, through its demand for clarity and precision, and in particular its association with the attempt to mathematicize everyday reasoning, soon reacted against that trust, and returned to one of the negative tenets of idealism: that ordinary language does not reflect in its grammatical structures the way the world

is. But the responses of idealism and of analytic philosophy to that mistrust of surface grammar could hardly have been more different.⁵²

Notes

- 1 The context shows that the grammar in question is that of, e.g., ordinary English. The choice of the expression 'transparency' comes from Hylton 1990: 171.
- 2 Harold Noonan says (1996: 72), 'In fact, at this time language is not a subject of interest to Russell...'. There is a sense in which this is correct; but it is misleading unless one points out too that the reason it can be said at all is because of Russell's adherence to the transparency thesis. See Hylton 1990: 171.
- 3 For evidence of how Bradley figured in Russell's imagination, see Candlish 1989: §2 esp. n. 2. For discussion of how representative Bradley actually was, see Mander 1994: Ch. 8: Candlish 1998: 111–13.
- 4 That is, those which do not ignore *The Principles of Mathematics* altogether and do not merely present his 'vivid sense of reality' (actually a phrase from Russell 1918) or some instinctive reaction against Meinong's ontology as Russell's motivating force in 1905 when writing 'On Denoting'.
- 5 How can grammar be *both* 'nearer to a correct logic' *and* a window on the world? The reason is that 'logic, as Russell conceives it, is not separate from ontology' (Hylton 1990: 205).
- 6 An identity theory of truth is what results from substituting identity for correspondence in the statement of a correspondence theory. For a brief account, see Candlish 1996b, and for further discussion, Candlish 1999a. The version of the identity theory of truth explicitly endorsed by Bradley has other origins too: it is required, e.g., by his monism. For any true judgement that is separate from the reality that makes it true will falsify monism. So consistency requires of Bradley that truth-bearer and truth-maker be identical. When one considers that the same reasoning can be applied to show that there can be no more than one truth-bearer. and no more than one truth-maker, what one might call the intellectualist version of his identity theory of truth immediately follows. (The intellectualist version is more Hegelian than the historical Bradley's, since it allows, roughly speaking, that the rational is the real and that reality has the structure of thought.) The historical Bradley's position was, of course, even more extreme than this: because, in his view, reality was of such a nature that discursive thought could not do it justice, at the point where truth is attained thought is swallowed up by reality, its identity with reality resulting in, as Bradley puts it, its suicide.
- 7 Russell 1903: §52. Some do not follow me in discerning a difference between the property theory and the identity theory e.g. Cartwright 1987a. I defend the view that there is a difference in my 1999b, at p. 234. Russell appears to agree with me in his 1904 (473f.), where, incidentally, the property theory has mutated into one in which true propositions have one property and false another.
- 8 One phenomenon that goes unremarked here is that Russell, like many philosophers since, seems to have just assumed that the surface grammar of names and definite descriptions is obvious and makes manifest their putative semantic function of picking out a unique object, so that those cases where this function fails need special explanation. (He then holds the cases of failure, in a characteristic philosophical move paralleled in common treatments of perception and action, to illuminate the cases of success.) Because the function is only putative, this assumption let us call it the face-value assumption is not the transparency thesis itself; it is something more deeply rooted (something like a notion that there are grammatical natural kinds), which motivates the problem requiring the

theory of descriptions for its solution, and which survived the discovery of the theory of descriptions to continue to exert an incalculable influence on the development of analytic philosophy. Although this note was written before I read Oliver 1999 (this volume, Ch. 5), I think that the assumption I am referring to here is one object of his criticism.

- 9 See, e.g., Russell 1905b: 425 lines 30–2; Russell 1937: x; Russell 1959: 84; Quine 1966: 305; Pears 1967: 13; Ayer 1972: 53–5; Haack 1978: 65f.; Grayling 1996: 33–5. Those to whom we are indebted for recognizing the falsehood of the usual story include Richard Cartwright (1987b), Harold Noonan, and, above all, Peter Hylton.
- 10 Not that Russell, or anyone else so far as I know, had ever explicitly held this view. Rather, it is something that he is pushed towards by the transparency thesis and the doctrine of real propositional constituents; but he sees that the push must be resisted.
- 11 See Hylton 1990: 237–44; Noonan 1996: 65–8. I follow Russell in identifying denoting concepts by using italics. Occasionally I use them for other purposes: the context removes any ambiguity.
- 12 The passage I quoted at the beginning of the previous section has a qualifying footnote appended to it: 'The excellence of grammar as a guide is proportional to the paucity of inflexions, *i.e.* to the degree of analysis effected by the language considered.' But even with this qualification the idea of reading off ontological commitment from the sentences of languages should not be understood as potentially providing theoretically unmediated access to ontology via brute linguistic facts. Russell seems not to have known that the surface grammar of English is contestable even more contestable, and contested, than I had realized when first writing this very note. Both Russell's earlier exceptions to, and his later rejection of, the transparency thesis are infected by logicians' myths about grammar. See Alex Oliver's devastating paper (Oliver 1999; this volume, Ch. 5).
- 13 See, e.g., Russell 1905a: 487. Here, just prior to the writing of 'On Denoting', Russell is still working within the confines of the theory of denoting concepts: 'We have thus merely a defining concept for each [putative entity], without any entity to which the concept applies. In this case, the concept is an entity, but it does not denote anything.' Harold Noonan has also seen this point (1996: 66f.).
- 14 And, as we shall see later, Russell uses even the theory of descriptions itself to maintain the integrity of the idea that meanings are real objects corresponding to words.
- 15 Russell 1905b: 421, lines 30f. I owe this insight to Noonan (1996: 79–81, 95).
- 16 Russell 1910: 123f.
- 17 In this early exposition of the theory, the expression 'definite description' does not appear. Russell instead retains his original vocabulary, 'denoting phrases', but abandons the idea that these introduce denoting concepts.
- 18 By 1918 grammatically proper names have become 'abbreviations for descriptions' (Russell 1918: 178).
- 19 This needs qualification to allow for the elimination of propositions in the multiple-relation theory of judgement of 1910 onwards. But no claim about constituents is affected here, since under the multiple-relation theory the constituents remain the same but are constituents of propositional acts rather than of propositions.
- 20 After Russell's adoption of the multiple-relation theory of judgement, it is propositional acts that are meant to be the unities. In any case, for several years at least, Russell subscribed to the principle ens et unum convertuntur. See Russell 1903: §47, and the 1910 letter to Bradley reproduced on p. 350 of The Collected

- Papers of Bertrand Russell, VI: Logical and Philosophical Papers 1909–13 (London: Routledge, 1992). On Russell's problems associated with the unity of the proposition, see Candlish 1996a and Gaskin 1997: §§1 and 2.
- 21 Although conjunction is definable, e.g. within the propositional calculus, Russell distinguishes this kind of mathematical definition from genuine philosophical definition which consists of 'analysis of an idea into its constituents' (Russell 1903: §108). There is no indication that he thinks logical constants like 'and' are susceptible to this kind of definition. Russell's approach to *and* is in accordance with the word/thing correspondence mentioned in the first section. This may seem extreme, but note that he is prepared to suggest that the sentences '9 is greater than 7' and '9 exceeds 7' express different propositions; for the fact that the sentences contain different words requires that the expressed propositions contain different entities.
- 22 See Candlish 1998: 142. Negative discovery consisted in the lack of such acquaintance after searching.
- 23 Or 'fully analytic' rather than 'fully analysed' if one thinks of an ideal language rather than of a completely perspicuous rendering of a natural language's deep structure.
- 24 This is an early exemplification of Russell's already-remarked tendency to try to solve a philosophical problem by discerning an object of acquaintance (here, a denoting concept) which somehow possesses just the right logical properties for the solution.
- 25 Of course interdefinability alone would not show Russell to be so committed. The work would have to be done by the arguments of Bradley which Russell cites. Regarding interdefinability alone as sufficient to reveal logical form results in absurdities, such as the one encountered in Russell 1918: 208.
- 26 This was because he thought that hypothetical propositions are definable as disjunctive propositions, but thought too that there are no disjunctive facts (because he could not believe that there is anything in reality corresponding to the disjunctive 'or'), and that the theory of truth-functions anyway made it otiose to posit the existence of any molecular facts. See here Russell 1918: 185, 208.
- 27 See Quine 1953: 7f., 167.
- 28 Cf. Hylton 1990: 259.
- 29 Cf. Hylton 1990: 271n.
- 30 For an interesting and extended discussion of this objection, see Walker 1989.
- 31 Cf. Arnauld and Nicole 1662: Part II, Ch. 3: 'Once we have formed ideas of things, we compare the ideas. We unite those which belong together by affirming one idea of another; we separate those which do not belong together by denying one idea of another. To judge is to affirm or to deny. The product of judging is expressed by a sentence which must contain two terms - the one term is the subject, which expresses the idea of which we affirm or deny another idea; the second term is the predicate, which expresses the idea which is affirmed or denied of the idea expressed by the subject. In judging, the mind not only conceives two ideas but also unites or separates them. The result of this activity of the mind is a proposition expressed by a sentence in which the verb "is" either alone or with a negative particle connects the terms that express the ideas that are affirmed or denied. When I say "God is just", the idea of God is joined to the idea of just; and this idea is the attribute of the proposition expressed by the sentence. The word "is" indicates my joining the idea of God with the idea of just. If we say "God is not unjust", "is not" indicates my separating the idea of God from the idea of unjust. . . . [E]very proposition is necessarily composed of three elements – the subject-idea, the attribute, and the joining of these two ideas . . . '.

- 32 Oliver 1999 (251, 258, 260–2; this volume: Ch. 5, 144f., 149f., 151–3) has made me properly uneasy about expressions like 'the view that all propositions are of subject–predicate form'. But it is impossible to discuss the history of this matter without them for these are the terms in which the disputes I describe were expressed. Oliver and I, in so far as our discussions of Russell overlap, seem not to disagree, except that I think he oversimplifies the Russell story on p. 263 (this volume: 153f.).
- 33 The dispute over relations is almost always discussed by means of slack formulations such as the 'acceptance' or 'rejection' of relations by various philosophers. Such talk obscures the complexities of an extended and tangled debate and makes it all too easy to present the idealists as perverse. For another example, see Wilson 1996. For a less 1066-and-All-That approach, see Candlish 1998.
- 34 See Candlish 1998: 136f. Nevertheless, Russell's temporary but intense anxiety over relations seems to have been based on the idea that monism, because of its denial of the reality of relations, is inconsistent with the ordinary truths of simple mathematics, while extreme pluralism, with its insistence on the reality of relations, is not.
- 35 This reading of Bradley depends upon a careful distinction of the claim that relations are unreal from the claim that they are internal. It is defended in detail in Candlish 1998.
- 36 The claim made in this paragraph is complicated by the fact that Bradley did think that in the last analysis, and in some sense, no relational statement is true. But this is not because of special problems with relations: it is because Bradley thought that in the last analysis *no* ordinary statement is ever completely true, there being no expressible truth that is uncontaminated by falsehood.
- 37 See Russell 1924; Candlish 1998: 133-5.
- 38 See Candlish 1989: esp. nn. 2 and 3.
- 39 'Ideal' in the sense of belonging to the realm of idea.
- 40 The suggestion, put to me in discussion, that this cannot be true because for Bradley 'Reality' is the name of Reality overlooks the fact that in Bradley's view of language there are no names.
- 41 Given this significance, it is a pity that Russell himself wavers over whether the assumption concerns surface or depth grammar, for on p. 4 he states it unequivocally as 'Every proposition has a subject and a predicate', whereas on p. 9 it becomes 'Every proposition is ultimately reducible to one which attributes a predicate to a subject.' It is, I think, pretty clear that the latter is Russell's considered version.
- 42 One should compare this remark about substance with the remarks about his own conception of particulars in Russell 1918: 179.
- 43 Peter Hylton (1990: 155) asks, 'Why, then, did Russell take the subject–predicate view to be a nearly universal philosophical error? The most plausible answer, I think, is that he equated this issue with the issue of the reality and objectivity of relations.' This might explain why Russell thought the view to be an error, but on its own it can hardly explain why he thought it 'nearly universal'. Hylton's question bundles two issues together.
- 44 Russell 1914b: 56. A full version of the argument appears in Russell 1903: §§212–6.
- 45 Later philosophers have doubted the special significance of asymmetrical relations in this debate. See Humberstone 1995.
- 46 'Clearly impossible': in fact Russell (1914b: 58) thinks that symmetrical relations cannot be expressed as predicates either, but that the point is easier to demonstrate in the case of asymmetrical relations. This appears to be a shift from his 1903 argument, one probably based on his recognition in 1913 that difficulties

- concerning the 'sense' or direction of a relation are not an essential part of the problems involved in discovering what is meant by 'understanding a proposition'. For references and discussion see Candlish 1996a: 118–20.
- 47 This example represents Russell's attack on what he called the 'monistic' version of the reducibility thesis, the one relevant to the present context of his dispute with Bradley. He also attacked a 'monadistic' version (1903: §§213–4).
- 48 Some may think this not a point of grammar, since it brings in semantic matters. But, as Oliver shows, there is 'an instability in the grammatical categories due to the varying prominence of three, often not clearly distinguished, criteria of classification: the formal, the semantic and the syntactic' (1999: 255; this volume: 148).
- 49 This aspect of Wittgenstein's thought is well discussed by Ian Proops in his contribution to this volume.
- 50 Bradley 1893: 17; 1914: 239.
- 51 Bradley 1893: 25–7; 1935: 634f. (The latter material was composed in 1923–4.)
- 52 Talks based on this paper have been given at The University of Western Australia, La Trobe University, and the 1999 conference of the Australasian Association of Philosophy (New Zealand Division). I am grateful for the incisive and helpful comments I received on these occasions, especially those of Lloyd Humberstone. This final version is improved as a result not only of these influences, but also of the careful written comments of Richard Gaskin and of Ian Proops.

References

In each case, the citation date shown following the author's name is the date of original publication. A separate date is shown for the edition cited only where this differs from the original. Page numbers are from the later publication.

Arnauld, A. and Nicole, P. (1662) *The Art of Thinking* [The Port-Royal *Logic*], Indianapolis: Bobbs-Merrill, 1964.

Ayer, A. J. (1972) Russell, London: Fontana.

- Bradley, F. H. (1883) *The Principles of Logic*, London: Oxford University Press, 1922.
- —— (1893) Appearance and Reality, Oxford: Clarendon Press, 1962.
- —— (1914) Essays on Truth and Reality, Oxford: Clarendon Press, 1968.
 - (1935) Collected Essays, Oxford: Clarendon Press.
- Candlish, S. (1989) 'The Truth about F. H. Bradley', Mind 98: 331-48.
- —— (1996a) 'The Unity of the Proposition and Russell's Theories of Judgement', in Monk and Palmer (1996): 103–35.
- (1996b) 'Truth, Identity Theory of', in E. Zalta (ed.) *The Stanford Encyclopedia of Philosophy*, Stanford, Calif.: CSLI, Stanford University, http://www.plato.stanford.edu/entries/truth-identity/ First posted 1996, last revised 1999.
- (1998) 'The Wrong Side of History: Relations, the Decline of British Idealism, and the Origins of Analytic Philosophy', in G. Stock (ed.) *Appearance versus Reality*, Oxford: Clarendon Press: 111–51.
- (1999a) 'A Prolegomenon to an Identity Theory of Truth', *Philosophy* 74: 199–221.
- —— (1999b) 'Identifying the Identity Theory of Truth', *Aristotelian Society Proceedings*, XCIX: 233–40.

- Cartwright, R. (1987a) 'A Neglected Theory of Truth', in his *Philosophical Essays*, Cambridge, Mass.: MIT Press: 71–93.
- —— (1987b) 'On the Origins of Russell's Theory of Descriptions', in his *Philosophical Essays*, Cambridge, Mass.: MIT Press: 105–33.
- Gaskin, R. (1997) 'Russell and Richard Brinkley on the Unity of the Proposition', *History and Philosophy of Logic* 18: 139–50.
- Grayling, A. C. (1996) Russell, Oxford: Oxford University Press.
- Griffin, N. (1991) Russell's Idealist Apprenticeship, Oxford: Clarendon Press.
- Haack, S. (1978) Philosophy of Logics, Cambridge: Cambridge University Press.
- Humberstone, I. L. (1995) 'Comparatives and the Reducibility of Relations', *Pacific Philosophical Quarterly* 76: 117–41.
- Hylton, P. (1990) Russell, Idealism, and the Emergence of Analytic Philosophy, Oxford: Clarendon Press.
- Mander, W. J. (1994) An Introduction to Bradley's Metaphysics, Oxford: Clarendon Press.
- Monk, R. and Palmer, A. (eds) (1996) *Bertrand Russell and the Origins of Analytical Philosophy*, Bristol: Thoemmes Press.
- Moore, G. E. (1903) *Principia Ethica*, Cambridge: Cambridge University Press, 1959.
- Noonan, H. (1996) 'The Gray's Elegy Argument and Others', in Monk and Palmer (1996): 65–102.
- Oliver, A. (1999) 'A Few More Remarks on Logical Form', *Aristotelian Society Proceedings*, XCIX: 247–72, reprinted in this volume as Ch. 5.
- Pears, D. F. (1967) Bertrand Russell and the British Tradition in Philosophy, London: Collins.
- Quine, W. V. O. (1953) From a Logical Point of View, New York: Harper & Row, 1961.
- (1966) 'Russell's Ontological Development', in R. Schoenman (ed.) *Bertrand Russell: Philosopher of the Century*, London: Allen & Unwin, 1967: 304–14. [First published in the *Journal of Philosophy*, LXIII, 1966: 657–67.]
- Russell, B. (1900) A Critical Exposition of the Philosophy of Leibniz, London: Allen & Unwin, 1937.
- —— (1903) *The Principles of Mathematics*, Cambridge: Cambridge University Press.
- —— (1904) 'Meinong's Theory of Complexes and Assumptions', in *The Collected Papers of Bertrand Russell*, IV: Foundations of Logic 1903–05, London: Routledge, 1994: 432–74.
- (1905a) 'The Existential Import of Propositions', in *The Collected Papers of Bertrand Russell*, IV: *Foundations of Logic 1903–05*, London: Routledge, 1994: 486–9.
- (1905b) 'On Denoting', in *The Collected Papers of Bertrand Russell*, IV: Foundations of Logic 1903–05, London: Routledge, 1994: 415–27.
- (1910) 'On the Nature of Truth and Falsehood', in *The Collected Papers of Bertrand Russell*, VI: *Logical and Philosophical Papers 1909–13*, London: Routledge, 1992: 116–24.
- (1911) 'Knowledge by Acquaintance and Knowledge by Description', in *The Collected Papers of Bertrand Russell*, VI: Logical and Philosophical Papers 1909–13, London: Routledge, 1992: 148–61.
- (1914a) 'The Relation of Sense-data to Physics', in *The Collected Papers of Bertrand Russell*, VIII: *The Philosophy of Logical Atomism and Other Essays*, 1914–19, London: Allen & Unwin, 1986: 5–26.

- —— (1914b) Our Knowledge of the External World, London: Allen & Unwin, 1926.
- (1918) 'The Philosophy of Logical Atomism', in *The Collected Papers of Bertrand Russell*, VIII: *The Philosophy of Logical Atomism and Other Essays*, 1914–19, London: Allen & Unwin, 1986: 160–244.
- (1919) Introduction to Mathematical Philosophy, London: Allen & Unwin.
- (1924) 'Logical Atomism', in *The Collected Papers of Bertrand Russell*, IX: *Essays on Language, Mind and Matter 1919–26*, London: Routledge, 1994: 160–79.
- (1937) 'Introduction to the Second Edition', *The Principles of Mathematics*, London: Allen & Unwin.
- —— (1959) My Philosophical Development, London: Allen & Unwin.
- Walker, R. C. S. (1989) The Coherence Theory of Truth, London: Routledge.
- Wilson, F. (1996) 'Moore's Refutation of Idealism', in P. Coates and D. Hutto (eds) *Current Issues in Idealism*, Bristol: Thoemmes Press: 23–57.
- Wittgenstein, L. (1922) *Tractatus Logico-Philosophicus*, London: Routledge & Kegan Paul.

5 A few more remarks on logical form*

Alex Oliver

Funny names?

Anyone who now teaches logic will know that encouraging students to cock snooks at grammar backfires since they know very little of it. The foreign languages of the propositional and predicate calculi are commonly the first they learn in the rigorous, old-fashioned way. Hence one should not be surprised if they impress the grammars of these languages on to their native tongue. I cannot be the only one to have heard 'Of course, "everyone" isn't like "Milly"; one's a quantifier, the other's a singular term'.

But perhaps students don't need grammar lessons to become confused. Isn't English itself deceptive, even without the structure imposed on it by some grammar? Quine says 'one of the misleading things about ordinary language is that the word "something" masquerades as a proper name'. And Sainsbury agrees with Russell that 'English misleads us' (no mention of grammar) and this deception is revealed by

our tendency to regard quantifiers and descriptions as names. That we do indeed have the tendency (even if we are not Meinong) is shown by the fact that Lewis Carroll's jokes are funny. . . . Certainly, for many of us, getting rid of the tendency comes at the same time as mastering PM- (or rather first-order) syntax.²

This is Carroll's joke:

'I see nobody on the road,' said Alice.

'I only wish I had such eyes,' the King remarked in a fretful tone. 'To be able to see Nobody! And at that distance too! Why, it's as much as I can do to see real people, by this light!' . . .

'Who did you pass on the road?' the King went on, holding out his hand to the Messenger for some more hay.

'Nobody,' said the Messenger.

'Quite right,' said the King: 'this young lady saw him too. So of course Nobody walks slower than you.'

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'I do my best,' the Messenger said in a sullen tone. 'I'm sure nobody walks much faster than I do!'

'He ca'n't do that,' said the King, 'or else he'd have been here first.'3

Nowadays this strikes us as the poorest example of Carroll's excruciating verbal slapstick. We do not nervously laugh, thinking there but for the grace of God go I. Nevertheless it is a capital joke (boom! boom!) since the confusion is between the White King's 'Nobody' and the others' 'nobody' (except where the Messenger adds a capital for the first word of a sentence). And once the King has construed 'Nobody' as a name, the confusions are no different from chestnuts like

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'What's your name?'
'Watt'
'I said, what's your name?'
'Watt's my name'
etc.
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Any words can be used to generate such aural puns, which turn on the use of a homophone as a name, and so they do not tell us anything in particular about a confusion between names and quantifier phrases. For example, Carroll played the same trick with 'time' and 'Time'.⁴

So the real question is, how could the King come to take 'nobody' as 'Nobody', i.e. as a name? Look how Carroll sets the scene. After Alice says 'I see nobody on the road', the King is made to reply 'I only wish *I* had such eyes. To be able to see Nobody!'. If he had said anything like 'I've never been able to see Nobody', the game would be over immediately.⁵

Who but a Carroll character could confuse names and quantifier phrases? First of all, Polyphemus in *The Odyssey* (an old chestnut indeed). Again, the stage-setting is crucial to the confusion. Homer felt compelled to make the already dense Cyclops hopelessly drunk before having Odysseus announce himself as 'Nobody'. But since there is no confusion between 'nobody' and 'Nobody' at the start, and anybody can be called 'Nobody'. the effect of the drink is only needed later on, to assist the blinding of the Cyclops and, more importantly for our purposes, to make plausible Polyphemus' bungled attempt to gain the help of his fellows. Hearing his cries, they ask him 'Surely none can be killing you by force or treachery?' and he answers 'Good friends, Nobody is killing me by force or treachery.'6 This is doubly moronic. He fails to anticipate the pun and its effects, and his matching of his friends' phrase, '... by force or treachery', although essential for their misunderstanding, is a conversational absurdity (it should be 'and'). Returning to the point that the confusion has nothing especially to do with quantifier phrases, it is interesting that, of the versions of the same folk tale which include a name-trick, the vast majority achieve

the deception using 'Me' or 'Myself', rather than 'Nobody'. Finally, if you would like something more sophisticated and funnier than Homer and Carroll, watch Abbott and Costello's labyrinthine 'Who's on First?' routine in *The Naughty Nineties*. 'Who', 'What', 'I Don't Know', 'Why', 'Because', 'Tomorrow', 'Today' and 'I Don't Care' all appear as names of baseball players.⁸

Of course, no one could deny that a visual analogy exists between sentences such as 'Milly ran faster than me' and 'nobody ran faster than me'. Nevertheless, it is fanciful to suggest that we become confused by this analogy and that English is misleading because it confuses us. This is a thought one can hardly entertain without rejecting it: since 'Milly' and 'nobody' can both be combined with 'ran faster than me', it follows that both 'Milly' and 'nobody' name somebody.

Received doctrine

All of this does not touch the fact that had our students learned grammar, they would have been misled. That is what happened to traditional logicians according to the following history.

Replacing a quantifier phrase by a name, or vice versa, in any sentence preserves grammaticality. In the jargon, quantifier phrases and names are intersubstitutable *salva congruitate*. On this basis, traditional grammar places them in the same grammatical category of *noun phrase* or *subject*. Traditional logicians were misled by traditional grammar. Since names were the fixed point, quantifier phrases were assimilated to them and so the search was on for curious objects named by 'nobody' and 'everyone'. (And we should put some rude words about Meinong.) Here, then, we have the paradigmatic case of grammatical form misleading as to logical form.

I have not made up this story. Something very like it is often taught to students to enable them to appreciate the gestalt switch occasioned by the invention of the quantifier-variable notation. At the risk of labouring the obvious, it will be worth quoting some authorities.

First, Dummett on intersubstitutability:

As far as the sentence-structure of natural language is concerned, signs of generality such as 'someone' and 'anyone' behave exactly like proper names – they occupy the same positions in sentences and are governed by the same grammatical rules; it is only when the truth-conditions or implicational powers of sentences containing them are considered that the difference appears.⁹

Second, Thomason implying the connection between intersubstitutability and traditional grammar:

In English syntax, however, quantifier phrases and proper nouns behave in much the same way; it is difficult to find instances in which replacement of the one kind of expression by the other affects grammaticality. And according to grammatical tradition, proper names and quantifier phrases are both classified as noun phrases, so that 'John walks' and 'A man walks' are treated as having the same form.¹⁰

Third, like Thomason, Chomsky tells us that traditional grammar operates with a category 'Noun Phrase' which includes both names and quantifier phrases. ¹¹ Geach accepts this characterization while condemning his following it:

If we turn from recent 'philosophical logic' to recent grammar, things are not much better. The sophistications of a computer age overlie ideas that might come straight out of Dionysius of Thrace and Priscian; indeed, Chomsky has expressly said that 'by and large the traditional views are basically correct, so far as they go'. Proper names and phrases like 'some man' are alike called Noun Phrases – whatever virtue there may be in the capitals – and are regarded as belonging to the same substitution class. ¹²

Fourth, representative passages from two of the many who repeat the traditional classification of both names and quantifier phrases as subjects. Here is Davidson on the standard translation of 'All whales are mammals' into predicate calculus: 'the contrast with surface grammar is striking. The subject–predicate analysis goes by the board, "all whales" is no longer treated as a unit '. ¹³ And Bell on 'some men are myopic': 'this was traditionally construed as comprising the predicate "myopic", the copula, and the subject "some men"'. ¹⁴

Fifth, two passages from Russell on traditional logic. The first describes the deception of traditional grammar:

Misled by grammar, the great majority of those logicians who have dealt with this question have dealt with it on mistaken lines. They have regarded grammatical form as a surer guide in analysis than, in fact, it is. . . . 'I met Jones' and 'I met a man' would count traditionally as propositions of the same form, but in actual fact they are of quite different forms ¹⁵

The second illustrates the primacy of the name:

It is typical of the lack of analysis involved that traditional logic treats 'all S is P' as a proposition of the same form as 'x is P' - e.g., it treats 'all men are mortal' as of the same form as 'Socrates is mortal'.¹⁶

Sixth, Lewis on quantifier phrases as names of queer objects:

In the dark ages of logic, a story something like this was told. The phrase 'some pig' names a strange thing we may call the *existentially generic pig* which has just those properties that some pig has. . . . The phrase 'every pig' names a different strange thing called the *universally generic pig* which has just those properties that every pig has. . . . There are also the *negative universally generic pig* which has just those properties that no pig has . . . the *majority generic pig* which has just those properties that more than half of all pigs have, and many more. ¹⁷

Finally, Russell's authoritative characterization of the theory of the Prince of Darkness. Meinong 'regards any grammatically correct denoting phrase as standing for an *object*', ¹⁸ where denoting phrases, Russell tells us, include 'a man', 'some man', 'any man', 'every man', 'no men' and 'all men'.

The testimony of the many and the wise makes the story received doctrine. How disagreeable, then, that it is pure dogma. For although I have not made it up, it is a logician's myth. The aim of the rest of this paper is to show that every element of it is false.

Intersubstitutability

A little ingenuity in designing contexts combined with a sense of humour makes many apparently awkward substitutions preserve grammaticality. Moreover, grammaticality is often a vague matter and hard to disentangle from questions about meaningfulness or imaginable use. For example, are the oath 'by nobody!' and the instruction 'leave the room, nobody' ungrammatical or meaningless or both? Or is it just that we cannot imagine how anyone could find a use for them?

Nevertheless, it is easy to come up with clear-cut cases which defeat both sides of the claim that names and quantifier phrases are intersubstitutable *salva congruitate*. First, the most striking difference between names and quantifier phrases is that the majority of quantifiers may or even must go with a plural noun: 'some', 'no', 'any', 'all', 'most', 'both', 'several', 'two', 'three', etc. Thus 'all men are mortal', but not 'Socrates are mortal'. Second, a point we have already noticed, the ungrammaticality of double negatives prevents many substitutions of 'nobody' for names: we don't say 'nobody never woke up' or 'Alice didn't see nobody'. Third, we don't negate a sentence beginning with a name by prefixing it with 'not', but this works with some quantifier phrases: we don't say 'not Jack is absent' but we do say 'not everyone is absent'. Fourth, many things can share the same name. This gives rise to the use of names as common nouns ('he's a Rothschild', 'there's a Paris in Idaho') and the use of sortals, demonstratives, titles, names in tandem and other devices to assist identification

('the river Jordan', 'that Smith', 'the Archduke Ferdinand', 'John Smith', 'Napoleon III', 'Pliny the Younger'). Sample substitutions produce: 'he's a a man', 'there's a some city in Idaho', 'the river no river', 'that a man', 'the Archduke each man', 'any man some man', 'a man III' and 'each man the Younger'. Fifth, names can function as generic nouns making various kinds of allusion: 'he's the Machiavelli of our department', 'she's no Mozart', 'he was a philosophical Kerensky', 'the museum has a Picasso', 'she was carrying a Gladstone', 'we walked around the London of Dickens'. But we don't say 'he's the a political genius of our department' etc. Sixth, the same adjective may restrict quantified nouns ('a poor/great/mighty man') and serve as an epithet ('poor Yorick', 'great Neptune', 'mighty Caesar'). But the position required by the quantifier prevents intersubstitutability: 'mighty Caesar conquered Gaul' but not 'mighty a man conquered Gaul'. Seventh, common nouns can be restricted using various postmodifying devices: adjectives combined with various expressions ('number divisible by 4', 'man still alive'), prepositional phrases ('man of virtue'), and non-finite clauses ('logician to study'). Thus we say '2 divides every number divisible by 4', 'no man still alive knows the answer', 'every man of virtue will object' and 'a logician to study is Frege'. But names cannot be modified in these ways. Contrast '2 divides 3 divisible by 4' etc.

These seven cases show that names and quantifier phrases are not intersubstitutable *salva congruitate* in every *English* sentence. Moreover, the first three show that replacing one quantifier phrase by another may make a sentence ungrammatical. ¹⁹ Things may be different in different languages, natural or man-made. But I take it that only Geach, and certainly no grammarian, would play the Polish card (or Latin or . . . card) in order to support a notion of 'in principle' intersubstitutability (in some 'in principle' language?), which transcends what he calls, following Prior, 'the idiotisms of idiom'. ²⁰

The idea of forming equivalence classes of expressions under the relation of intersubstitutability *salva congruitate* is a distinctively modern one, despite the medieval terminology. Quine rejects it as a way of spelling out a transcendent notion of grammatical category and tells us that the idea was Husserl's. ²¹ He should have said that those who have used it wrongly suppose Husserl to be the pioneer. For example, Tarski attributes the concept of 'semantic category' to him but cites Leśniewski as his immediate source. ²² Of course, a formal language can be fashioned so that its expressions neatly fall into categories under intersubstitutability *salva congruitate* and this can be made to exactly mirror the classification under intersubstitutability *salva intelligibilitate*. This explains Tarski's use of Husserl's 'semantic category' despite the fact that Husserl was not interested in the idea of preserving grammaticality, but rather in preserving what he called 'the unity of sense' at the level of meanings. ²³

But Tarski doesn't think of his idea of a semantic category as limited to formal languages:

so far as its origin and content are concerned, it corresponds (approximately) rather to the well-known concept of part of speech from the grammar of colloquial language.²⁴

This claim is false even with the hedging 'approximately'. Take the traditional part of speech *Adjective*. 'Every' and 'white' both count as adjectives despite the evident failure of intersubstitutability. And even if we focus on what were often called 'quantitative adjectives' both 'every' and 'all' appear in the same class despite the fact that the nouns to which they are attached have to be marked differently for number.

'Traditional grammar', like 'traditional logic', is a convenient label born of the pigeon-holing 'them and us' mentality which makes for soothing history but obscures variety and disagreement. For example, in his encyclopaedic English Grammatical Categories, Michael has refuted the common idea that there is some one privileged system of parts of speech in traditional grammar.²⁵ He finds fifty-six different systems of classification even in vernacular English grammars before 1800 and a cursory look at subsequent works reveals the same picture. This diversity is caused by an instability in the grammatical categories due to the varying prominence of three, often not clearly distinguished, criteria of classification: the formal, the semantic and the syntactic. Although syntactic classifications are the nearest ancestors of the idea of classifying expressions according to intersubstitutability salva congruitate, little significance was attached to them: 'they saw these syntactic definitions only as a usefully "visual" form of explanation'. 26 In the popular grammars of the late nineteenth century and early twentieth century, semantic classifications dominate:

A noun is a word used as the *name* of anything that we speak about.²⁷

A Noun is a word used for naming some person or thing.²⁸

Infected by the scientism of the twenties and thirties, an epidemic in linguistics, logic and philosophy, Bloomfield reacted to this sort of definition by declaring that

to accept definitions of meaning, which at best are makeshifts, in place of identification in formal terms, is to abandon scientific discourse²⁹

and thereby set in train the so-called post-Bloomfieldian structuralist movement which attempted to eliminate the use of unscientific, semantic classifications in linguistics. Its bible was Harris's *Methods in Structural Linguistics* and its commandment is stated in his chapter on method:

The main research of descriptive linguistics, and the only relation which will be accepted as relevant in the present survey, is the distribution

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or arrangement within the flow of speech of some parts or features relatively to others.³⁰

Eliminating appeals to meaning in favour of distribution is not in itself to use *complete* distributional equivalence (i.e. intersubstitutability *salva congruitate* in every sentence) to establish grammatical categories. For example, Harris experimented with weaker relations which class morphemes together if they share most but not necessarily all environments.³¹ More popular works declared an interest in complete equivalence³² although, as Lees remarks in his review of the New Testament:

no author has yet taken such a distributional criterion really seriously and examined all possible frames for substitutability... What is really used is substitution in 'diagnostic' frames; and these are chosen quite arbitrarily ... $.^{33}$

In contrast, contemporary pedagogic grammars match the heterogeneity of traditional grammars. They employ a host of non-coincident criteria of grammatical classification which in combination only make some expressions more noun-like (verb-like, etc.) than others.

Sainsbury speaks of 'our naïve intuitive syntax', ³⁴ not traditional grammar. But it is contrasted with 'current syntactic theory' ³⁵ and, like so many who have criticized traditional grammar, he criticizes its classifications because they are 'woefully inadequate in the study of validity'. ³⁶ What exactly is naïve syntax? Four different things which don't mix. ³⁷ First of all, 'naïve' and 'intuitive' are supposed to contrast with a 'theoretically grounded view'. ³⁸ The emphasis is on visual appearance and analogy as opposed to theoretically motivated classification:

Expressions which look similar, at least to the naïve eye, can contribute in very different ways to the meanings of sentences in which they occur ³⁹

Second, naïve syntax is supposed to employ what Sainsbury dubs 'the naïve syntactic test':

Two expressions belong in the same syntactic category by the naïve syntactic test if and only if you can replace one by the other, wherever it occurs, without turning sense into nonsense.⁴⁰

This decidedly theoretical and *semantic* test, based on intersubstitutability *salva intelligibilitate*, is quite different from the rough-and-ready classification delivered by off-hand visual inspection.

In the final chapter of his book (1991) the naïve syntactic test has changed character even though he uses the same label.⁴¹ Despite an explicit

acknowledgement that the notions of meaningfulness and grammaticality as applied to sentences are not coincident, the test now becomes the familiar one based on intersubstitutability *salva congruitate*, a test which we now recognize to have been handled only by the far from naïve logicians and linguists. And Sainsbury makes the usual claims about its application:

Names like 'Reagan' and quantifiers like 'someone' arguably belong in the same syntactic category by the naïve syntactic test; and names and definite descriptions are incontrovertibly in the same syntactic category by this test.⁴²

But the cases which defeated the first claim can easily be adapted to defeat the second.

Finally, Sainsbury tells us that naïve syntax not only groups expressions but names the groups. For example, according to naïve syntax, sentences of the form 'the F is G' and the sentence 'John walks' are subject—predicate sentences. This terminology reflects Sainsbury's conception of traditional grammar (the names had to come from somewhere) and goes beyond both how things look and the nameless categories of both versions of the naïve syntactic test. But the terminology is confused. 'Subject' and 'predicate' are functional labels which describe the role an expression plays within a given sentence (it can be subject in one sentence but not in another), and so do not correspond to the absolute categories delivered by either version of the naïve syntactic test or set down in the various systems of parts of speech found in traditional grammars.

Noun phrase and subject

We now turn to grammatical categories and, first, to the confident assertion made by Chomsky, Geach and Thomason that traditional grammar classifies both names and quantifier phrases as 'noun phrases', which, unlike 'subject', marks an absolute classification. Contemporary grammars, both pedagogic and theoretical, and even a recent book on grammar by a logician, 44 operate with such a classification. But how far do we have to go back to find the original idea of a noun phrase? Only Geach makes an attempt to specify what he means by traditional grammar when he writes that this classification 'might come straight out of Dionysius of Thrace and Priscian'. That this is false is evident from the contents of any 'traditional' grammar. For example, consider Mason's English Grammar (nineteenth edition in 1874). The notion of a phrase, as a syntactically coherent subsentential string distinct from a clause, plays hardly any role, the author preferring to talk not of phrases themselves but their heads and subordinate adjuncts. Certainly there is no mention of noun phrases. In Ashton's early twentieth-century edition of Mason, 'phrase' is dignified with a definition which actually excludes noun phrases:

A **phrase** is a collection of words without a finite verb, and is used in an adjectival or in an adverbial relation to some word in a sentence.⁴⁵

So when did 'noun phrase' first appear? A recent dictionary of linguistics says Harris (1951).⁴⁶ The OED also gives 1951 but this time the pioneer is Geach! Reviewing Quine's *Methods of Logic*, he regrets

the space devoted to a reformulation of the old logic of terms ...; learning to twist statements into the form of a copula between two noun-phrases can be positively harmful to a student's logical perceptiveness.⁴⁷

which makes 'every man' a noun phrase.

Both dictionaries are wrong. In 1933, Bloomfield used the term several times in his discussion of the immediate constituents of sentences, an idea which was to be made precise in the top-down division of sentences into successive levels of constituents embodied in phrase-structure grammar and its close cousin categorial grammar.⁴⁸ One needs a name for the half of the first division which has a noun as head; hence 'noun phrase'.

A functional analysis in terms of subject and predicate can be made to correspond to the absolute classification, in terms of noun phrase and verb phrase, of the immediate constituents of a sentence. In his attempt to demonstrate the continuity of phrase-structure rules with past practice, Bach claims that the subject and predicate of schoolroom parsing exercises play exactly this role. ⁴⁹ This conforms to our myth: parse 'every man is mortal' and first you have the subject 'every man' and the predicate 'is mortal'.

'Subject' has a much longer history in grammars than 'noun phrase'. Vernacular grammars of the seventeenth century proudly borrowed it from logic but it only became a preferred term in the nineteenth century since it took time for grammarians to make the notion their own by finding it syntactical work. During the 1800s, syntax evolved away from the classifications found in etymology (parts of speech) towards more functional categories. But it was only well into the twentieth century that syntax finally freed itself from the dominance of the individual word. Thus it should be no surprise that the functional notion of a subject is applied to individual words ('man'), rather than phrases ('every man'), in Victorian accounts. As Matthews argues, this undermines Bach's placing of phrase-structure rules in the grammatical tradition and shows another element of our myth to be false.⁵⁰

It is amusing to read this account from Mason, which illustrates how grammarians came to conceive of their appropriation of the logician's 'subject':

In grammar it is usual to employ the terms *subject* and *predicate* in a more restricted sense than in Logic. In Logic, the *subject* of a

proposition is *the entire description* of that which is spoken of: the *predicate* is *all that is employed* to represent the idea which is connected with the subject. Thus, in 'This boy's father gave him a book', the subject is 'this boy's father'; the predicate is 'gave him a book'. But in grammar, the single noun *father* is called the subject, and *gave* the predicate, the words connected with *father* and *gave* being treated as enlargements or adjuncts of the subject and predicate.⁵¹

Along with this classification goes a method of analysis which is more subtle and syntactical than the simple assignment of words to parts of speech but still not of the sophisticated top-down kind mentioned earlier. This is typical:

In analysing a sentence, we break it up in such a manner as to show how it contains the essential constituents of every sentence, Subject and Predicate, and round these elements we group the remaining words, phrases, or clauses, as adjuncts.⁵²

The distinction between grammatical and logical subject was made around the same time in the United States. Brown distinguishes five methods of syntactical analysis, the third of which 'some late grammarians have borrowed from the logicians'⁵³ and which rolls up the grammatical subject and its adjuncts into the logical subject. So, although such a logician's method of analysis did not dominate, it was not altogether absent from grammar books. When it does appear, however, it does not turn many cogs since the emphasis is still on words and their relationships, rather than phrases and theirs.

If our grammarians are right, it was logic which lumped names and quantifier phrases together as subjects. But they are wrong: grammar has its myths as much as logic. In a sentence such as 'every man is an animal', traditional logic has it that 'man' is the subject and 'every' the sign of quantity. Only so could one express the relations of opposition and the operation of conversion in terms of the ideas of subject and predicate. This notion of subject is a stable feature of traditional logic from the medievals, through the Port-Royal *Logic*, the textbooks of Aldrich, Whately, De Morgan and Jevons, right up to the last champions such as J. N. Keynes. ⁵⁴ To finish the story, compare the passage quoted above from Mason, the grammarian speaking of logic, with this from Keynes, the logician speaking of grammar:

The *logical* analysis of a proposition must be distinguished from its *grammatical* analysis. Grammatically only two elements are recognized, namely, the subject and the predicate. Logically we further analyse the grammatical subject into quantity and logical subject, and the grammatical predicate into copula and logical predicate.⁵⁵

Keynes's claim is the complete reverse of Mason's. Mud-slinging has obscured the facts. In general, and in spite of their mistaken characterizations of each other, neither traditional logicians nor traditional grammarians classified quantifier phrases as subjects.

Russell

Enough has been said to refute Russell's charge that logicians were misled by grammar and *so* treated 'I met Jones' and 'I met a man' as having the same form. His claim that traditional logic treats 'All men are mortal' as having the form of 'Socrates is mortal' is also false. Medieval logicians, such as Sherwood and Ockham, were quite clear about the difference between universal and singular propositions. They too distinguished traditional logic (Aristotle's *Organon*) from their own modern logic, which included a theory of supposition designed in part to explain the difference in the meanings of names and of quantifier phrases. Central to their theory is the doctrine that the signs of quantity are syncategorematic words which have different effects on the supposition of the noun to which they are attached. Thus the syntactic structure of 'every man' is mirrored by its semantic structure, structures which are evidently absent from a simple proper name.⁵⁶

Russell would have been on better ground had he stressed that if anything was primary in traditional logic, it was not the singular but the universal proposition. Singular propositions were not within the ambit of Aristotle's formal system. But in an attempt to incorporate such propositions within syllogistic logic, Ockham, for example, assimilated singular propositions to universal propositions, for the purposes of the taxonomy of arguments.⁵⁷ So he treated 'Socrates is mortal' as having the same form, in one good sense of form, as 'all men are mortal', despite the different semantic treatments of such propositions. This assimilation continued right up to Russell's day and beyond.⁵⁸

It follows that Lewis's 'dark ages of logic' are certainly not *the* dark ages. There is nothing in them that corresponds to his pigs. For something close, we must look at Russell himself and his characterization of Meinong's theory quoted on p. 146. By 1905, Russell had become the English authority on Meinong, having done the hard labour of several reviews and made his theory of objects a target in 'On Denoting'. No wonder then that Sainsbury characterizes Meinong, more than anyone else, as thinking of 'nobody' as a name. And no wonder Geach cannot resist a 'pace Meinong' when he criticizes the view that 'some men' refers to 'just some man or men, not a definite man or a definite number of men'. ⁵⁹ Poor old Meinong, forever demonized as the benchmark of logical and ontological heresy.

Amnesia is the only charitable diagnosis of Russell's failure to put his own earlier self alongside the Meinong whom he implied did 'a disservice

to thought'.60 Although in The Principles of Mathematics he represents himself as taking grammar as his guide, the master is a theory of meaning from which he deduces that the quantifier phrases, 'all men', 'every man', 'any man', 'a man' and 'some man', indicate denoting concepts, which in turn denote 'very paradoxical' objects every bit as silly as Lewis's pigs.⁶¹ In Chapter V, 'Denoting', no man is not mentioned, which has made some think that Russell did not include it as a denoting concept.⁶² But in the next chapter we learn that 'nothing is a denoting concept, which denotes nothing'.63 So even Russell-1903, a Carroll character if ever there was, could not stomach somebody named by 'nobody'. On the page before, Russell had considered the putative proposition *chimaeras are animals* and said 'it seems most correct to reject the proposition altogether', 64 i.e. there is no such thing.⁶⁵ A similar argument applies to the putative proposition nobody is 10 feet tall. There must be some thing or things which it is about. It is not about the denoting concept *nobody* but there is nothing else to fill the role since the concept fails to denote. So there is no such proposition.

The argument can be applied to each of the other quantifier phrases Russell considered when the constituent noun has no application. It deserves to be called Russell's problem of empty quantifier phrases and, corresponding to the shift in his concerns in 'On Denoting', became the problem of empty definite descriptions. In that paper, Russell rejected his theory of denoting concepts but this made the problem of empty quantifier phrases more acute since he persisted with the idea that the proposition expressed by a sentence consists of constituents indicated by the elements of the sentence. So he employs what he had earlier resisted, the reduction of one form of sentence to another, thereby eliminating the quantifier phrases. For example, he claims that "All men are mortal" means "If x is human, x is mortal' is always true"'.66 The latter sentence reveals the real nature of the proposition expressed by both, and since it does not contain 'all men' no corresponding constituent need be postulated. ⁶⁷ But the reductive project is vitiated by his still needing to think of the expression 'x' in the reducing sentence as standing for the variable, the absurd object which appears in both The Principles of Mathematics and 'On Denoting' as emblem of their underlying similarity.68

We may date 'the dark ages of logic', as Lewis tactfully refrains from doing, as that vague period during which the influence of traditional logic wanes but the quantifier-variable notation is not yet generally understood and promulgated. If they had reached their nadir in 1903, Russell's continued reification of the variable shows they were by no means over in 1905.

Meinong and Hilbert

According to Russell's characterization of Meinong with which we started, Russell-1903 was very nearly a Meinongian. Russell-1919 is to be blamed

for another modern connotation of 'Meinongian', namely someone who says that 'the present King of France' and 'the round square' do not stand for objects which exist but rather for objects which have some other kind of 'logical being'.⁶⁹ Russell-1903⁷⁰ certainly believed in different kinds of reality and when he wrote 'On Denoting' he knew that Meinong did as well (Russell contrasts 'exist' with 'subsist'). But he also knew that Meinong did not apply this distinction to 'the present King of France' or 'the round square' ('it is admitted that such objects do not *subsist*'⁷¹). Nevertheless, bolstered by Quine's 'On What There Is' (we all know that Wyman is Meinong), Russell's erroneous later characterization still appears in the textbooks.⁷² A glance at the fourth section ('The *Außersein* of the Pure Object') of Meinong's 1904 paper which they cite shows them to be wrong.

Nor was Meinong a Meinongian in Russell's first sense. He was no logician since logic wasn't his game, despite Russell's irenic suggestion that the first part of *The Principles of Mathematics* 'is explicitly concerned with questions relating to the theory of objects'. 73 Instead, he was working within the phenomenological tradition initiated by his supervisor Brentano, which sought to describe the objects of thought, those objects towards which our thoughts are directed. How, then, could Russell be so mistaken about the aims and content of Meinong's theory, especially since there is very little that resembles a logician's treatment of quantifier phrases in his work, the only remarks being soggy and commonplace?⁷⁴ In *The Principles* of Mathematics, Russell had commended Meinong's remarks about the indefinite article in his 'Abstraction and Comparison' and, of course, he famously contested Meinong's treatment of the definite article in 'On Denoting'. 75 But in both cases, Russell misunderstood what Meinong was up to. Russell was interested in the existential use of the indefinite article ('I met a man') and the use of the definite article in definite descriptions ('the present King of France is bald'). Meinong was interested in neither despite using the same words. Abstraction is the clue. As Smiley points out, 'the' also has a generic use ('the triangle is a plane figure') and this was Meinong's concern. 76 Russell's neglect of this use of 'the' resulted in protracted misunderstandings and misrepresentations. The same diagnosis can be applied to Meinong's interest in the indefinite article ('a whale is a mammal') and 'some' or 'something' ('abstract from the particular cases: just think of something blue'). He was investigating what was before the mind when one thought of the triangle, a whale and something blue, in abstraction from the instances. All of these are bona fide objects, only they are what might now be called generic objects or types and which he called 'indeterminate' or 'incomplete' objects. Notice that although they are similar to Lewis's universally generic pig they are not introduced as the referents of universal quantifier phrases and they have no companions.

For Meinong, concrete objects were bundles of instances of properties, while his generic objects are selective bundles of properties, hence

'incomplete' objects.⁷⁷ Incomplete objects have whatever properties figure in them. Hence the round square really is round and square. Once again, Meinong has been misrepresented, this time by Lewis who refers to a character called 'Bogus Meinong':

an orthodox figure who has found a way to speak more or less as Meinong does by quantifying over property bundles and getting it up to look as if he is quantifying over Meinongian objects that instantiate the bundle Note well: Bogus Meinong is *not* Meinong.⁷⁸

But incomplete objects are precisely Lewis's property bundles and so, although Meinong is no Meinongian in either of the senses we have discerned, he *is* Bogus Meinong!

I said that Meinong had no theory of quantifier phrases, but he does find himself confronting the existential use of 'a' and 'some' in the context of objects of thought. When I think of a square brown thing that I saw, I am not thinking of the incomplete object a square brown thing but rather of a definite (or determinate) square brown thing. And, according to Meinong, it is by thinking of it as a definite square brown thing that I manage to think of it since its whole nature is inaccessible to thought. How are thoughts about a square brown thing and a definite square brown thing connected?

My answer to this question is so fundamentally simple that it is hard to get rid of the fear that it is too simple. . . . If I wish to refer to something wholly determined by the thought of 'a square brown thing', without necessarily knowing the determinations which distinguish it from something else, I need only think of 'a determinate square brown thing'. ⁷⁹

Evidently, the idea is to read the existential 'a determinate square brown thing' as 'for some uniquely defining condition F, a square brown thing that Fs', which contains the generic 'a' but comes down to the one thing which is F. But this really is too simple. The problem is not contradiction, pace Findlay. ⁸⁰ Instead it creates a regress by removing one existential quantifier only to introduce another, viz. 'for some uniquely defining condition F'. But the point is not that Meinong's account failed, but rather that his attempt to reduce the existential use of 'a' and 'some' to the generic use is further evidence that his concern centred on the latter.

There is an interesting structural analogy between Meinong's failure and Hilbert's vain attempt to introduce objects corresponding to indefinite descriptions ('an F') using his η and ε functions, and hence to treat them as singular terms. The idea is not to postulate some new and curious 'ambiguous' or 'arbitrary' or 'random' individual to correspond to 'an F' but to use a function to choose one of the Fs, at random or arbitrarily, to

so correspond. For example, consider his ε -operator, the linchpin of his entire enterprise and by means of which he proposed to define the universal and existential quantifiers. When applied to a predicate F, the ε -operator selects one of the Fs if there are any, one of the non-Fs if not.⁸² 'An F' is replaced with 'the value of the function ε for argument F'. But the definiteness implied by 'the value of the function' is illusory since Hilbert has never said which function he has in mind. All we know about ε is that it is some function or other which meets certain conditions and so the indefiniteness of 'an F' has been removed only by introducing the indefiniteness of 'an ε -function'. The same problem surfaced in the 1950s as the difficulty of making sense of talk of arbitrary objects in informal accounts of the natural deduction rules of universal generalization and existential instantiation. Russell's reification of the variable reappears in the idea that the free variables featuring in applications of the rules are names for curious objects.⁸³ Recognizing the mystery, Goddard suggested that 'arbitrary object' or 'random individual' is misleading:

There is a world of difference between a random (free) choice of actual individuals and the calculated choice of a random individual – whatever that might be. 84

But this is Hilbert's legerdemain: we need to know and cannot be told which actual individuals free variables name.

Morals and therapy

The story used to justify our current logics is entirely fictional. The claims about names and quantifier phrases in English are wildly false. Two of the heroes of modern logic, Russell and Hilbert, make the very mistakes which are falsely blamed on traditional logic. The villain, Meinong, turns out to have been working a different patch. Ideas ascribed to traditional grammar are modern inventions. Neither logicians nor grammarians can be trusted to tell the history of either grammar or logic.

There is something deeply satisfying in a conspiracy theory, in the idea that we, unlike our predecessors, have not been duped by the grammar of our language. But the real deception is self-deception. Because we have not yet reached a critical distance from our own logical practice, we fail to see it as a cultural artefact and instead view first-order logic (or its kin) as the hidden inner machinery of the natural languages we all speak. Although this gives the pleasure of finding something out (the logical form of our sentences) it also requires a story to be told about how others have failed to see the light. It is surely time to give up the myth. 85

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Notes

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- 1 Ouine 1950: 84.
- 2 Sainsbury 1979: 139f.
- 3 Carroll 1872: 198-201.
- 4 Carroll 1865: 63.
- 5 An even stranger diagnosis of Carroll's joke appears in Flew 1951. He claims that Carroll exploits the fact that 'it is absurd, but to some people it is also easy, to be misled by the grammatical similarity of "Somebody came" to "Nobody came" into the misconception that "Nobody" refers to a person just as does "Somebody" (p. 7).
- 6 Homer, Book IX, lines 406–8.
- 7 Glenn 1971: 163.
- 8 Anobile 1973: 219-43.
- 9 Dummett 1973: 20.
- 10 Thomason 1974: 59.
- 11 Chomsky 1965: 63f.
- 12 Geach 1968: 115f.
- 13 Davidson 1970: 138.
- 14 Bell 1979: 36.
- 15 Russell 1919: 168.
- 16 ibid.: 163.
- 17 Lewis 1970: 218.
- 18 Russell 1905: 45.
- 19 See Vendler 1962 and McCawley 1977 for different examples concerning 'the' universal quantifier.
- 20 Geach 1975: 154.
- 21 Ouine 1970: 18.
- 22 Tarski 1936: 215.
- 23 Husserl 1900, *Investigation IV*, §10 ('A priori laws governing the combinations of meanings').
- 24 Tarski 1936: 215.
- 25 Michael 1970.
- 26 ibid.: 517.
- 27 Mason 1874: 14; and similarly Tucker and Wallace 1917: 16.
- 28 Nesfield 1898: 4; and similarly Pink and Thomas 1924: 8.
- 29 Bloomfield 1933: 266.
- 30 Harris 1951: 5.
- 31 Harris 1946 and 1951. Chomsky (1953) explores an understanding of the concept belong to the same syntactic category, which is much weaker than complete distributional equivalence but matches Harris's procedures. Chomsky (1975), dating from 1955, marks the beginning of the shift away from substitution techniques ('elements may be in the same category in the highest-valued analysis even if they share no context': 141).
- 32 For example, Fries 1952: Ch. V.
- 33 Lees 1957: 61 (review of Chomsky 1957).
- 34 Sainsbury 1991: 292.
- 35 ibid.: 335.
- 36 ibid.: 39.

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- 37 Compare Davidson's disjunctive definition of 'surface grammar' as 'the form we are led to assign to sentences by superficial analogy or traditional grammar' (1970: 137).
- 38 Sainsbury 1991: 292.
- 39 ibid.: 41.
- 40 ibid.: 371.
- 41 ibid.: 295.
- 42 ibid.: 296.
- 43 ibid.: 291f.
- 44 Dummett 1993: Ch. 1.
- 45 Ashton 1909: 245.
- 46 Trask 1993: 189.
- 47 Geach 1951: 424f. In fact he had already used it to include indefinite descriptions in Geach 1950: 465f.
- 48 Bloomfield 1933: 161 and Ch. 12. 'Noun phrase' in Tucker and Wallace 1917: 23, does not have the modern sense.
- 49 Bach 1964: 33.
- 50 Matthews 1993: 147f.
- 51 Mason 1874: 138.
- 52 West 1903: 224.
- 53 Brown 1884: 470.
- 54 The only deviation I have found is unsurprising in an era where logic had become unfashionable. The two most popular textbooks of the eighteenth century are sloppy since they begin with the correct definition but, when it doesn't matter, count the sign of quantity as an element of the subject. See Duncan 1748: Ch. III, and Watts 1755: Part II, Chs I and II.
- 55 Keynes 1928: 92, n. 1.
- 56 Ockham 1974: §4 and §§63-74; Sherwood 1966: Chs 1 and 5.
- 57 Bocheński 1956: 232.
- 58 Assimilation for taxonomical purposes was sometimes misdescribed as the limning of reality. E.g. Boole 1847: 59, says that singular propositions are 'truly universals'.
- 59 Geach 1962: 7.
- 60 Russell 1919: 170.
- 61 Russell 1903: §46 ('grammar . . . as our guide'); §62 ('very paradoxical').
- 62 E.g. Geach 1962: 56.
- 63 Russell 1903: §73.
- 64 ibid.: §73.
- 65 It is not a false proposition, pace Geach 1959: 30.
- 66 Russell 1905: 43.
- 67 Russell's reduction only works if we do not enquire too closely about the meaning of '... is always true'. And it is unnecessary within a Fregean theory of meaning since 'all men' can be treated as a unit, namely as a second-level predicate.
- 68 Russell 1903: Ch. VIII; 1905: 42.
- 69 Russell 1919: 169.
- 70 §§47, 71, 427.
- 71 Russell 1905: 45.
- 72 Grayling 1997: 29; Sainsbury 1991: 168.
- 73 Russell 1904: 16.
- 74 Meinong 1915: 207; Meinong 1978. In the latter, unpublished work Meinong says that the subject of 'All men are mortal' and 'Some men are mortal' is 'man'.
- 75 Russell 1903: §58, commending Meinong 1900; Russell 1905: 45–7.
- 76 Smiley 1981: 325.

- 77 Findlay 1963: Ch. VI; Grossmann 1974: 42f. and 205-16.
- 78 Lewis 1990: 28.
- 79 Meinong 1915: 189, translation from Findlay 1963: 175.
- 80 1963: 174-80.
- 81 Hilbert and Bernays 1970: 9–12. These functions replaced the τ function which Hilbert (1923: 1140f.) invoked to treat 'any A' as a singular term.
- 82 Hilbert adds this clause to avoid empty terms.
- 83 Fine's work on arbitrary objects does nothing to rebut the charge that introducing them adds an extra layer, idle and mysterious, between free variables and ordinary objects. See Tennant's (1983) vigorous reply to Fine 1983, which the latter fails to mention in his subsequent book (1985).
- 84 Goddard 1958: 20.
- 85 I am grateful to Bob Hanna, Rosanna Keefe, Michael Potter and Peter Smith for their reactions and especially to Timothy Smiley for his encouragement and generosity. Work on this paper was supported by the Research Leave Scheme of the Humanities Research Board of the British Academy.

References

In each case, the citation date shown following the author's name is the date of original publication. A separate date is shown for the edition cited only where this differs from the original. Page numbers are from the later publication.

- Anobile, R. (ed.) (1973) Who's On First? Verbal and Visual Gems from the Films of Abbott and Costello, London: Studio Vista.
- Ashton, A. J. (1909) Senior English Grammar, London: Bell.
- Bach, E. (1964) An Introduction to Transformational Grammars, New York: Holt.
- Bell, D. (1979) Frege's Theory of Judgement, Oxford: Clarendon Press.
- Bloomfield, L. (1933) Language, Chicago: University of Chicago Press, 1984.
- Bocheński, I. M. (1956) *A History of Formal Logic*, trans. I. Thomas, Notre Dame: University of Notre Dame Press, 1961.
- Boole, G. (1847) The Mathematical Analysis of Logic, Oxford: Blackwell, 1948.
- Brown, G. (1884) *The Grammar of English Grammars*, 10th edn, New York: Wood.
- Carroll, L. (1865) Alice's Adventures in Wonderland. Reprinted with Carroll (1872), London: Oxford University Press, 1971.
- ——— (1872) *Through the Looking Glass and What Alice Found There*. Reprinted with Carroll (1865), London: Oxford University Press, 1971.
- Chomsky, N. (1953) 'Systems of Syntactic Analysis', *Journal of Symbolic Logic* 18: 242–56.
- ——— (1957) Syntactic Structures, The Hague: Mouton.
- ——— (1965) Aspects of the Theory of Syntax, Cambridge, Mass.: MIT Press.
- —— (1975) *The Logical Structure of Linguistic Theory*, New York: Plenum Press (dates from 1955).
- Davidson, D. (1970) 'Reply to Cargile', reprinted in his *Essays on Actions and Events*, Oxford: Clarendon Press, 1980: 137–46.
- Dummett, M. (1973) Frege: Philosophy of Language, London: Duckworth.
- ——— (1993) Grammar and Style, London: Duckworth.
- Duncan, W. (1748) The Elements of Logic, Menston: The Scolar Press, 1970.

- Fine, K. (1983) 'A Defence of Arbitrary Objects', Aristotelian Society Supplementary Volume 57: 55–77.
- ——— (1985) Reasoning with Arbitrary Objects, Oxford: Blackwell.
- Flew, A. G. N. (1951) 'Introduction', in A. G. N. Flew (ed.) *Logic and Language*, First Series, Oxford: Blackwell: 1–10.
- Fries, C. C. (1952) The Structure of English, New York: Harcourt, Brace.
- Geach, P. T. (1950) 'Subject and Predicate', Mind 59: 461-82.
- —— (1951) Review of W.V. Quine's Methods of Logic, Mind 60: 424-6.
- —— (1959) 'Russell on Meaning and Denoting', reprinted in his *Logic Matters*, Oxford: Blackwell, 1981: 27–31.
- —— (1962) Reference and Generality, Ithaca: Cornell University Press.
- —— (1968) 'Quine's Syntactical Insights', reprinted in his *Logic Matters*, Oxford: Blackwell, 1981: 115–27.
- ——— (1975) 'Names and Identity', in S. Guttenplan (ed.) *Mind and Language*, Oxford: Clarendon Press: 139–58.
- Glenn, J. (1971) 'The Polyphemus Folktale and Homer's *Kyklôpeia*', *Transactions and Proceedings of the American Philological Association* 102: 133–81.
- Goddard, L. (1958) 'Mr Rescher on Random Individuals', Analysis 19: 18-20.
- Grayling, A. C. (1997) *Introduction to Philosophical Logic*, 3rd edn, Oxford: Blackwell.
- Grossmann, R. (1974) Meinong, London: Routledge & Kegan Paul.
- Harris, Z. S. (1946) 'From Morpheme to Utterance', Language 22: 161-83.
- —— (1951) Methods in Structural Linguistics, Chicago: University of Chicago Press.
- Hilbert, D. (1923) 'Die logischen Grundlagen der Mathematik', translation printed in W. Ewald (ed.) From Kant to Hilbert: A Source Book in the Foundations of Mathematics, vol. II, Oxford: Clarendon Press, 1996: 1134–48.
- Hilbert, D. and Bernays, P. (1970) *Grundlagen der Mathematik II*, 2nd edn, Berlin: Springer.
- Homer: The Odyssey, trans. R. Lattimore, New York: HarperPerennial, 1991.
- Husserl, E. (1900) *Logical Investigations*, vol. 2, trans. J. N. Findlay, London: Routledge & Kegan Paul, 1970.
- Keynes, J. N. (1928) Studies and Exercises in Formal Logic, 4th edn, London: Macmillan.
- Lees, R. B. (1957) Review of N. Chomsky's *Syntactic Structures*, reprinted in G. Harman (ed.) *On Noam Chomsky: Critical Essays*, Garden City: Anchor, 1974: 34–79.
- Lewis, D. (1970) 'General Semantics', reprinted in his *Philosophical Papers* vol. I, Oxford: Oxford University Press, 1983: 189–229.
- ——— (1990) 'Noneism or Allism?', *Mind* 99: 23–31.
- McCawley, J. (1977) 'Lexicographic Notes on English Quantifiers', reprinted in his *Adverbs, Vowels, and Other Objects of Wonder*, Chicago: University of Chicago Press, 1979: 179–90.
- Mason, C. P. (1874) English Grammar, 19th edn, London: Bell.
- Matthews, P. H. (1993) *Grammatical Theory in The United States from Bloomfield to Chomsky*, Cambridge: Cambridge University Press.
- Meinong, A. (1900) 'Abstrahieren und Vergleichen', Zeitschrift für Psychologie und Physiologie der Sinnesorgane 24: 34–82.

- ——— (1904) 'The Theory of Objects', translation printed in R. M. Chisholm (ed.) *Realism and the Background of Phenomenology*, Glencoe: Free Press, 1960: 76–117.
- ——— (1915) Über Möglichkeit und Wahrscheinlichkeit, Leipzig: Barth.
- ——— (1978) 'Allgemeinheit', entry in 'Sach-Index zur Logik und Erkenntnistheorie' in his *Ergänzungsband zur Gesamtausgabe: Kolleghefte und Fragmente*, R. Fabian and R. Haller (eds), Graz: Akademische Druck- und Verlagsanstalt: 27–31; written between 1888 and 1903.
- Michael, I. (1970) English Grammatical Categories, Cambridge University Press.
- Nesfield, J. C. (1898) English Grammar Past and Present, London: Macmillan.
- Ockham, W. (1974) *Ockham's Theory of Terms: Part I of the Summa Logicae*, trans. M. J. Loux, Notre Dame: University of Notre Dame Press, 1974.
- Pink, M. A. and Thomas, S. E. (1924) *English Grammar, Composition and Correspondence*, St. Albans: The Donnington Press.
- Quine, W. V. (1948) 'On What There Is', reprinted in his *From a Logical Point of View*, 2nd edn, rev., Cambridge, Mass.: Harvard University Press, 1980: 1–19.
- ——— (1950) Methods of Logic, New York: Holt.
- ——— (1970) Philosophy of Logic, Englewood Cliffs: Prentice-Hall.
- Russell, B. (1903) *The Principles of Mathematics*, vol. I, Cambridge: Cambridge University Press.
- (1904) Letter to Meinong 15.xii.1904, translation in *Russell: The Journal of the Bertrand Russell Archives* 9: 15–16.
- (1905) 'On Denoting', reprinted in his *Logic and Knowledge*, ed. R. C. Marsh, London: Allen & Unwin, 1956: 41–56.
- (1919) Introduction to Mathematical Philosophy, London: Allen & Unwin, 1963.
- Sainsbury, R. M. (1979) Russell, London: Routledge & Kegan Paul.
- ——— (1991) Logical Forms, Oxford: Blackwell.
- Sherwood, W. (1966) *Introduction to Logic*, trans. N. Kretzmann, Minneapolis: University of Minnesota Press, 1966.
- Smiley, T. J. (1981) 'The Theory of Descriptions', *Proceedings of the British Academy* 97: 321–37.
- Tarski, A. (1936) 'The Concept of Truth in Formalized Languages', translation printed in his *Logic, Semantics and Metamathematics*, trans. J. H. Woodger, Oxford: Clarendon Press, 1956: 152–278.
- Tennant, N. (1983) 'A Defence of Arbitrary Objects', Aristotelian Society Supplementary Volume 57: 79–89.
- Thomason, R. (1974) 'Introduction' in R. Thomason (ed.) Formal Philosophy: Selected Papers of Richard Montague, New Haven: Yale University Press: 1–69.
- Trask, R. L. (1993) A Dictionary of Grammatical Terms in Linguistics, London: Routledge.
- Tucker, T. G. and Wallace, R. S. (1917) *English Grammar: Descriptive and Historical*, Cambridge: Cambridge University Press.
- Vendler, Z. (1962) 'Each and Every, Any and All', expanded version printed in his *Linguistics in Philosophy*, Ithaca: Cornell University Press, 1967: 70–96.
- Watts, I. (1755) Logick, 10th edn, London: Longman & Buckland.
- West, A. S. (1903) *The Elements of English Grammar*, Cambridge University Press.

6 Logical syntax in the Tractatus

Ian Proops

Introduction

In the view of the *Tractatus* 'The rules of logical syntax must go without saying if we only know how each individual sign signifies' (Tractatus 3.334). This thought is presented as a commentary on *Tractatus* 3.33,² which runs: '[logical syntax] must admit of being established without mention being thereby made of the meaning of a sign'. Taken together, the two remarks present a puzzle: because a language's syntax is usually established by stating purely formal rules for the construction of well-formed sentences, it is difficult to see what it could be to 'establish' a logical syntax whose rules are supposed to 'go without saying'. Nor is it immediately apparent whether the 'logical syntax' under discussion is supposed to be that of a natural language, or only of an artificially constructed Begriffsschrift. Wittgenstein contrasts 'the language of everyday life' with 'a signlanguage' [Zeichensprache] which 'obeys the rules of logical grammar – of logical syntax' (3.323-3.325), but he also says that 'all propositions of our colloquial [i.e. ordinary] language are actually, just as they are, logically completely in order' (5.5563) (emphasis mine).

Despite these puzzles, I believe that a coherent and illuminating view of the nature of 'logical syntax' can be extracted from the *Tractatus*. In what follows I will try to throw light on this conception, and to resolve its puzzles, by explicating a closely related pre-Tractarian idea. This is the thought, expressed in a letter to Russell of 1913, that a correct 'theory of symbolism' must render all theories of types 'superfluous'.³ Throughout this essay I shall be at pains to emphasize the importance in this connection of Wittgenstein's novel account of the meaning-bearing elements of a sentence. The idea, in brief, is that these elements are not the sentence's individual words, but rather certain *facts* about how these words are related to one another. In the sentence 'Clinton is tall', for example, what ascribes tallness to Clinton is not the expression 'is tall', but the *fact* that a token of 'is tall' occurs immediately to the right of a token of a name. This idea should be familiar to students of the *Tractatus*, but the systematic role it plays in his early philosophy has not, I think, been widely appreciated.

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I shall argue that, in addition to shedding light on what it might be for logical syntax to 'go without saying', this idea is operative in motivating Wittgenstein's version of Frege's Context Principle, and the conception of nonsense that accompanies it. The idea also plays a role in Wittgenstein's resolution of Russell's paradox.

In the course of making these points I shall be developing a criticism of Cora Diamond's influential account of Wittgenstein's views on nonsense. I shall also be arguing for a point whose importance reaches beyond Wittgenstein scholarship. This concerns the problem of reconciling any form of the Context Principle with the creative aspect of language use – its so-called 'compositionality'. I shall suggest that Wittgenstein's views about what symbolizes in a sentence provide a strikingly elegant solution to this problem.

Nonsense and the theory of types

I want to begin by considering Wittgenstein's oft-repeated slogan that 'Logic must take care of itself'. In the *Tractatus* this remark serves to introduce a discussion of better and worse ways of conceiving of nonsense:⁴

Logic must take care of itself.

A *possible* sign must also be able to signify. Everything which is possible in logic is also permitted. ('Socrates is identical' means nothing because there is no property which is called 'identical'. The proposition is nonsense because we have not made some arbitrary determination, not because the symbol is in itself impermissible.)⁵

In a certain sense we cannot make mistakes in logic.⁶

(5.473; translation slightly adapted)

In approaching this passage we should keep in mind that in Wittgenstein's writings 'logic' has a broad range of meanings, stretching from 'a deductive calculus' at one end of the spectrum, to 'a foundational inquiry into the nature of language and what we would call "logic", at the other. The implication of 5.473 is that for logic to look after itself is for language, by its very nature, to render a certain kind of mistake impossible. That it is specifically *language* which is supposed to look after itself is supported by a variant of the 'caretaking' slogan that occurs in the *Notebooks*: 'We must,' says Wittgenstein, 'recognize how language takes care of itself' (Wittgenstein 1979: 43). The perceived – or, rather, imagined – threat against which language is supposed to guard itself is the formation of what we might call 'intrinsically illegitimate symbols', that is to say, meaningless combinations of meaningful signs. Wittgenstein's thought is that if – per impossibile – language could contain such signs, it would need to be 'taken care of' by a theory that furnished principled reasons for counting some combinations of meaningful signs as legitimate, others not. The burden of the above passage is that this is precisely the wrong way to

conceive of language, and that once we form the right conception, we will come to see that no caretaking theory is, or could be, necessary after all.

What would a theory that attempted to 'take care of' language look like? A passage from the *Notebooks*, which seems to be the original source for 5.473, provides a clue:

Logic must take care of itself.

If syntactical rules for functions can be set up *at all*, then the whole theory of things, properties, etc., is superfluous. It is also all too obvious that this theory isn't what is in question either in the *Grundgesetze*, or in *Principia Mathematica*. Once more: logic must take care of itself. A *possible sign* must also be capable of signifying. Everything that is possible at all, is also legitimate. Let us remember the explanation why 'Socrates is Plato' is nonsense. That is, because *we* have not made an arbitrary specification, NOT because a sign is, shall we say, illegitimate in itself!

(22 August 1914, Wittgenstein 1979: 2)

As the passage makes clear, one candidate for a 'caretaking theory' is Russell's Theory of Types; another is the theory of objects, functions and concepts, outlined in the opening sections of Frege's *Grundgesetze*. When Wittgenstein says that the theory of things, properties, and so forth 'isn't what is in question in *Grundgesetze* or in *Principia Mathematica*' he does not mean to be denying that these works *contain* such a theory, but only that their chief concern is with this theory's articulation and defence. (Wittgenstein takes it as obvious that the main business of these works is to establish one or other variety of logicism.)

Russell's 'types' are various categories of worldly, rather than linguistic, entity; and accordingly the Theory of Types is a theory that first assigns these entities to types, and then tells us which combinations of these types do, and which do not, constitute propositions. Because for Russell 'significant' sentences are just those combinations of signs that express propositions, the Theory of Types motivates a theory which tells us which strings of signs make sense, and which do not. This second theory may also be called a 'Theory of Types', but only in a derived sense.

When Wittgenstein says that a nonsense 'sentence' is not nonsense because a complex sign is 'illegitimate in itself' it is not at first clear what he means to be denying. Obviously, few people would consider a *purely syntactic* item to be illegitimate in itself – at most they might regard it as 'ill-formed' according to the formation rules of some language, and so illegitimate relative to the language in question. It seems that if Wittgenstein is to be read charitably here, he must be interpreted as denying the existence of complex signs that are illegitimate in virtue of the *meanings* of their component signs. I shall operate on this assumption in what follows.

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What does Wittgenstein mean by his talk of setting up 'syntactical rules for functions'? It is clear that he cannot be envisaging the kind of purely syntactic 'formation rules' that are used to specify the formulas of a formal language; for, while such rules would indeed make no appeal to a Theory of Types – in the narrow sense of a theory of entity combination – neither would they render this theory 'superfluous', since a Theory of Types would still be required to *motivate* them.⁸

A better answer is suggested by Wittgenstein's letter to Russell of January 1913:

[E]very theory of types must be rendered superfluous by a proper theory of symbolism: For instance if I analyse the proposition Socrates is mortal into Socrates, mortality and $(\exists x, y) \in_{I} (x, y)$ I want a theory of types to tell me that 'mortality is Socrates' is nonsensical, because if I treat 'mortality' as a proper name (as I did) there is nothing to prevent me [from making] the substitution the wrong way round. *But* if I analyse (as I do now) into Socrates and $(\exists x) \cdot x$ is mortal or generally into x and $(\exists x) \cdot \varphi x$ it becomes impossible to substitute the wrong way round because the two symbols are now of a different *kind* themselves. What I am *most* certain of is not however the correctness of my present way of analysis, but of the fact that all theory of types must be done away with by a theory of symbolism showing that what seem to be *different kinds of things* are symbolized by different kinds of symbols which *cannot* possibly be substituted in one another's places. (Wittgenstein 1979: 121f.)

Every Theory of Types, then, is to be rendered superfluous by a 'proper theory of symbolism', and by this Wittgenstein does not mean a theory of the combinatory possibilities of meaningful words, but a theory of *how* the various signs of the language symbolize. In the present example, the theory says that the items symbolizing in the string: 'Socrates is mortal' are *not* two proper names, 'Socrates' and 'mortal', together with the copula, 'is', but rather certain items that (somehow) by their very nature can be combined in only *one* way. At this early stage Wittgenstein has yet to get clear about the details of this insight, but, as we shall see, he does get clearer about them in due course.

Wittgenstein's idea is that if we correctly identify the meaning-bearing elements of a language, the apparent possibility of a meaningless combination of meaningful signs will reveal itself to be *merely* apparent. A proper theory of symbolism will render any Theory of Types 'superfluous', by making clear that there is no such thing as a nonsensical combination of meaningful signs. In consequence, there will be no need for a theory to explain the nonsensicality of any combinations, and 'logic' – which in this context means 'meaningful language' – will 'take care of itself'. These thoughts are still rather preliminary, but if they are on the right track, we

might expect that what Wittgenstein means by 'syntactical rules for functions' are the various clauses of a theory of symbolism – a theory that makes clear which facts about signs have significance in the language.

Wittgenstein's 'theory of symbolism'

Wittgenstein nowhere gives a full-dress presentation of his envisaged 'theory of symbolism', but he does indicate how particular clauses might go. In the *Notes on Logic*, for example, he observes that

Symbols are not what they seem to be. In 'aRb', 'R' looks like a substantive, but is not one. What symbolizes in 'aRb' is that 'R' occurs between 'a' and 'b'.

(Wittgenstein 1979: 98)¹⁰

And in the 1914 *Moore Notes*¹¹ he remarks that 'the symbol of a property e.g. ψx , is *that* ψ stands to the left of a name form' (Wittgenstein 1979: 116).¹²

We can be confident that these remarks are serious statements of Wittgenstein's view at the time he began to write the *Tractatus*, for in a letter of 22 July 1915 he tells Russell that he regards the *Moore Notes* 'essentially as definitive' (Wittgenstein 1995: 102). ¹³ He adds that in the event of his death Russell is to get 'his manuscript printed whether anyone understands it or not' (ibid.). This manuscript is most likely the one Wittgenstein sent to Russell from Norway in October 1913, containing what were to become the four 'manuscript' sections of the *Notes on Logic*. ¹⁴ And, indeed, in the *Tractatus* itself Wittgenstein continues to maintain that what symbolizes in the sentence are certain *facts* about its constituent signs: he holds that *only* facts can express a sense (cf. 3.142–3.1432).

Wittgenstein puts his fledgling 'theory of symbolism' to work to argue for a particular conception of nonsense. In the *Moore Notes* he says

The reason why, e.g., it seems as if 'Plato Socrates' might have a meaning, while 'Abracadabra Socrates' will never be suspected to have one, is because we know that 'Plato' has one, and do not observe that in order that the whole phrase should have one, what is necessary is not that 'Plato' should have one, but that the fact that 'Plato' is to the left of a name should.

(Wittgenstein 1979: 116)¹⁵

The passage makes clear the place at which the theory of symbolism is supposed to do its work. Wittgenstein has an explanation of nonsense that works well for 'Abracadabra Socrates': a meaningless sentence contains signs to which we have given no meaning in the language (cf. *Moore Notes*, Wittgenstein 1979: 118, and 5.4733). But this explanation *appears* to fail

for the nonsense string 'Plato Socrates', for in this case we do seem to have given meaning in the language to each of the component signs. From Wittgenstein's point of view, however, this apparent problem arises only because we begin with the wrong view of what bears meaning in a sentence. Once we grasp that it is certain facts about signs rather than the signs themselves that have meaning in a sentence we come to appreciate that the string 'Plato Socrates' is indeed meaningless precisely because something in it has not been given meaning, only this 'something' is not the sign 'Plato' but the *fact* that a token of 'Plato' occurs to the left of a token of a name.

A precisely parallel point applies to the nonsense string 'is red is green'. In this case, it may appear that we have attempted unsuccessfully to put one meaningful predicate in the argument-place of another, but the theory of symbolism reveals this appearance to be misleading. What symbolizes in 'predicative' occurrences of the English expression 'is green' is the fact that a token of the sign 'is green' stands to the right of a token of a name. (Note that the classification of a sign as a 'name' must be understood to rely on phonetic, morphological and syntactic - but not semantic criteria.)¹⁶ Because speakers of English attach significance to this fact, 'is green' has what we call 'predicative meaning' in the language. (This does not, of course, preclude its having other meanings as well.) The result is that instead of containing two meaningful predicates inappropriately combined, the string 'is red is green' contains no predicative symbolizing elements whatsoever: it exemplifies no fact that a token of 'is green' occurs to the right of a token of a 'name', since, obviously, 'is red' is not an English name. The reason why 'we cannot make mistakes in logic' (5.473), 17 then, is that the meaning-bearing elements of a proposition turn out to be such that there is simply no such thing as putting them together in illegitimate ways. As soon as one grasps how words in natural languages mean what they do mean – i.e. in virtue of certain significant facts about them – the appearance that, for example, 'is red is green' is an illegitimate combination of meaningful words simply evaporates.

Since one way in which a word occurs 'outside the context of a sentence' is by occurring in a nonsense 'sentence', the theory of symbolism can be viewed as motivating a Context Principle to the effect that a word only has meaning in the context of a sentence (cf. 3.3). Once we accept the theory of symbolism just outlined, it becomes readily apparent why there should be no meaningful 'words' in a nonsense 'sentence': it is an immediate consequence of there being no significant *facts* in such a 'sentence'.

Syntactically well-formed nonsense?

A possibly controversial feature of my account – but one which I fully embrace – is that it commits Wittgenstein to denying the existence of syntactically well-formed nonsense. ¹⁹ Consider, for example, the nonsense string: 'The slithy toves wept'. Let us suppose that its phonology, and the

presence of the recognized English words 'the' and 'wept', gives us reason to count this string as one whose grammaticality is to be decided by the rules of English syntax. Let us further suppose that the 'nonsense words' are genuine nonsense, rather than words with meanings unknown to the audience. On the reading I have been advancing Wittgenstein would have to count this string as nonsense by virtue of its containing *no* symbolizing elements, and so as among other things exemplifying no fact of the form that a token of 'wept' occurs to the right of a token of a plural noun phrase. He would therefore be obliged to deny that 'the slithy toves' is after all a plural noun phrase.

In defence of such a view one may call attention to the fact that since 'slithy' and 'toves' are genuinely nonsensical, they do not occur in the lexicon of English and so are not assigned to any syntactic category. It follows that the more comprehensive wholes in which they occur – including 'the slithy toves' – cannot themselves be assigned to a determinate syntactic category. But if that is so, then there can be no such thing as a nonsense *noun phrase* or, for that matter, a nonsense *sentence*.²⁰

To suppose that the early Wittgenstein refused to recognize a category of grammatically well-formed nonsense would fit with his remark in the *Moore Notes* to the effect that

The reason why 'The property of not being green is not green' is *nonsense*, is because we have only given meaning to the fact that 'green' stands to the right of $name^{21}$; and 'the property of not being green' is obviously not *that*.

(Wittgenstein 1979: 116)

The sentence under discussion might well strike us as grammatically well-formed – it may seem to have subject–predicate form – but Wittgenstein implies that to view it in this way would be a mistake, for the apparent singular term 'The property of not being green' fails to count as a name. It so fails, I take it, because of its internal complexity, which indicates that the meaningful contexts in which it occurs stand in need of further analysis, and this analysis will serve to eliminate the nonsense-word 'property'.

That Wittgenstein rejected grammatically well-formed nonsense would also square with what he has to say about Jabberwocky-style nonsense in his 1930 Cambridge Lectures. Speaking of the first line of Jabberwocky, Wittgenstein says: 'This can be analysed into subject and predicate and parts of speech, but is nonsense. This shows that such analyses of the constituents of propositions are not correct.'²² The remark seems to suggest that a string's nonsensicality should be taken to indicate that any syntactic analysis that would deem it well-formed cannot be correct. This remark should of course be treated with all the caution appropriate to student jottings, but it does at least make salient the fact that the examples of nonsense given by Wittgenstein at 4.1272 are all cases in which it is

questionable whether he would regard their prima facie syntactic analyses as correct. For example, his remark that the word 'object' is properly treated as a 'variable name' makes it seem likely that he would regard the nonsense 'sentence' 'There are objects' as only *apparently* grammatical, and in actual fact a mere sentence fragment, viz. the initial part of some *meaningful* sentence, e.g. 'There are objects that are green' – a sentence that is perspicuously represented only by the explicit use of a variable: ' $\exists x$ (green x)'.

These considerations are not perhaps decisive proof that the early Wittgenstein rejected the idea of *syntactically* well-formed nonsense, but I would suggest that in the absence of clear evidence to the contrary they ought to carry considerable suasive force in this direction. And it is a striking fact that both in the *Tractatus* and in his pre-*Tractatus* writings Wittgenstein fails to provide a single clear example of something he regards as a grammatically well-formed nonsense 'sentence'. The impression that Wittgenstein believed in such a phenomenon arises, I suggest, from a focus in the literature on a small selection of examples of putative well-formed nonsense which are either not Wittgenstein's own (e.g. 'Caesar is a prime number'), or are not nonsense by Wittgenstein's lights (e.g. 'the watch *is sitting* on the table' – which Wittgenstein describes not as 'unsinnig' but as 'sinnlos'²³), or *are* nonsense, but are not syntactically well-formed by Wittgenstein's lights (e.g. 'The slithy toves did gyre and gimble in the wabe').²⁴

The theory of symbolism and Russell's paradox

In the *Moore Notes* Wittgenstein employs his theory of symbolism to effect a resolution of the set-theoretic version of Russell's paradox.²⁵ The resolution proceeds by demonstrating the nonsensicality of the paradoxinducing statement that a particular class contains itself as a member. It does not deal with this statement directly, but only with its analysed form.²⁶

Consider a sentence of the language of *Principia* which purports to say of a given class that it contains itself as a member:

$$\hat{u}(\varphi u) \in \hat{u}(\varphi u).$$

We may eliminate the second occurrence of the class term by applying the contextual definition mentioned on p. 25 of *Principia*. We obtain

$$\varphi\{\hat{u}(\varphi u)\}.$$

A second contextual definition, the one mentioned on p. 76 of *Principia*, is then used to eliminate the remaining class-term. We end up with

$$(\exists \psi) ((\forall x) (\varphi x \equiv \psi! x) \& \varphi \{\psi! \hat{u}\}).$$

The right-hand conjunct purports to express the result of putting one propositional function, $\psi!$ \hat{u} , in the argument-place of another, $\varphi\hat{u}$. The paradox is resolved by arguing that this conjunct is nonsense. Wittgenstein observes that the symbol ' φ '

cannot possibly stand to the left of (or in any other relation to) the symbol of a property. For the symbol of a property, e.g., ψx , is that ψ stands to the left of a name form, and another symbol φ cannot possibly stand to the left of such a fact: if it could, we should have an illogical language,²⁷ which is impossible.

(Moore Notes, Wittgenstein 1979: 116)

The resolution makes use of the key point that the symbol for a property is not a predicate sign, but a fact. In the predicate ' ψx ' what symbolizes is the fact that ' ψ ' stands to the left of a 'name form'. Consequently for the predication ' $\varphi(\psi x)$ ' to have significance – given the fact, guaranteed by the meaningfulness of the biconditional, that ' φ ' and ' ψ !' symbolize in the same way – there would have to be significance to the *fact* that the letter ' φ ' stands immediately to the left of another *fact*, and of course there are no such facts – which is just to say that here our words fail to make sense.

Compositionality and the Context Principle

As Cora Diamond has done much to emphasize, ²⁸ there is something perfectly 'natural' about the conception of nonsense to which Wittgenstein is opposed. This has much to do, I think, with our intuitive appreciation of the creative aspect of natural language – its so-called 'compositionality'. ²⁹ This is something to which the *Tractatus* attaches great importance: 'A proposition,' says Wittgenstein, 'must communicate a new sense with old words' (4.03). This requirement is a consequence of the platitude that 'I understand the proposition without its sense having been explained to me' (4.021). Obviously, if I am to understand a sentence which I have never heard before without being told what it means, I will have to make use of my prior grasp of its component words.

Our tacit appreciation of the compositionality of language encourages the natural view of nonsense because it makes it seem as though in the case of nonsense 'sentences', as in the case of genuine sentences, we must deploy our prior understanding of the component words in a preliminary attempt to make sense of the newly presented string. This in turn leads to a view of a nonsense 'sentence' as a string of meaningful words that has somehow failed to gel into a proposition.³⁰

The problem can appear intractable so long as the meaning-bearing elements of a sentence are taken to be *signs*, but if we follow Wittgenstein in taking them to be *facts*, the puzzle resolves itself. For on this alternative approach, we can view the nonsense 'sentence' 'Plato Socrates' as

wholly devoid of meaning-bearing elements, even though it contains signs that figure significantly in other contexts. When we are presented with a string of phonemes we first have to find the significant facts, if any, and then grasp their significance. This does not mean that understanding a novel sentence is a purely creative act, unconstrained by features of that sentence, for our interpretation of a novel sentence is guided by our recognition of certain familiar signs that crop up again in that sentence. In making sense of a novel sentence we will (tacitly) hypothesize that these signs play host to certain 'symbolizing facts' 11 to which we have given meaning in the language.³² In a nonsense 'sentence' this preliminary hypothesis fails: there turn out to be no symbolizing facts in the string. But in a meaningful sentence, once we have recognized the relevant symbolizing facts in the presented string, we will be able to deploy our knowledge of their significance to make sense of the string. What we bring to a newly presented string is therefore not a grasp of its constituent signs' meanings but, in the first place, a number of working hypotheses concerning the symbolizing facts to which its constituent signs 'belong' and, in the second place, a grasp of their significance. For it is the symbolizing facts that in the first instance have the meanings, not the signs they are facts about.³³

Wittgenstein tells us that: 'In order to recognize the symbol in the sign we must consider the significant use' (3.326). This remark is related both to the *Tractatus*'s Context Principle (3.3) and to Russell's notion of 'definition in use'.³⁴ Its point is that in order to see how a word is functioning – in order to recognize the symbol,³⁵ if any, to which it belongs – one must consider the sign as used in *significant* sentences. Wittgenstein makes these points clear in the course of his explanation to Ogden of 3.326. He says

The meaning of the proposition is: that in order to recognize the symbol in a sign we must look at how this sign is *used* significantly in propositions. I.e. we must observe how the sign is used in accordance with the laws of logical syntax. Thus 'significant' here means as much as 'syntactically correct'.³⁶

(Wittgenstein 1973: 59)37

3.326 is both an injunction and a prohibition. It enjoins us, when we are asking to what symbol a sign belongs, to consider how the sign functions in whole meaningful sentences. It demands that we remain alert to the possibility that a sign may have no meaning in isolation, but only, as Russell puts it, a 'definition in use'. (This, of course, is precisely how Russell regards denoting phrases from 1905 onwards.)³⁸ It prohibits us from asking after the function of the individual words in strings, such as 'Socrates is identical', which transgress what Wittgenstein here calls 'the laws of logical syntax'. Such strings are ones in which phonemes or graphemes that occur meaningfully in other contexts are put together in ways that fail to produce a symbol. So Wittgenstein means that it is only in the context of a sentence-

sized symbol - a proposition - that a sign can belong to a symbol, and so have a semantic function or meaning.

The flaw in the 'natural view' of nonsense

I have been arguing that Wittgenstein's theory of symbolism is intended to unmask as illusory the very phenomenon that the Theory of Types was developed to explain. It is meant to make clear the unavailability of a certain conception of a nonsense 'sentence', namely, as a string that is nonsense on account of the meanings of its meaningful parts.³⁹ I have been calling such imagined strings 'intrinsically illegitimate symbols'.

Wittgenstein's objections to this conception arise from his awareness that it brings with it a commitment to a Theory of Types. 40 His thought is that, if we assume that there can be nonsense which is nonsense in virtue of the meanings of its component words, we shall need a Theory of Types to explain why some combinations of meanings are legitimate, others not. But then – this is Wittgenstein's ultimate objection – our conception of nonsense will inherit all the problems peculiar to a Theory of Types, and chief among them the problem that our attempts to assign types to entities will themselves violate type restrictions. I elaborate this point below.

I should emphasize that in making this claim I am going against an influential line of interpretation of the *Tractatus*, according to which Wittgenstein is supposed to regard the idea of an intrinsically illegitimate symbol as *immediately* incoherent. The view I have in mind is the one set out by Cora Diamond in her important paper 'What Nonsense Might be'.⁴¹ Diamond suggests that in rejecting intrinsically illegitimate symbols Wittgenstein – and in her view also Frege – implicitly reason as follows: 'If nonsense is explained as the result of an illegitimate combination of meaningful elements, then we shall be committed to an incoherent view of a nonsense sentence as one that is nonsense *because of what it says*'. Referring to this view as the 'natural view' of nonsense,⁴² Diamond says

[The natural view of nonsense holds that] whether a sentence makes sense or not is functionally dependent on its parts, on their logical category. . . . The idea is that if you say 'Caesar is a prime number' and you mean 'Caesar' as a person's name and you mean the last four words in exactly the sense they have in '53 is a prime number' then the reason what you say is nonsense is that *the person* Caesar *having the property* you said 53 had – *that* is impossible, *that* makes no sense.

(1991: 104)

She concludes

[T]he idea that the sentence is nonsense because of the categories of the expressions illegitimately combined in it is implicitly (this is the diagnosis of the natural view from the Frege-Wittgenstein position) the idea of their forming a sentence which *does* say something – something which the holder of the natural view regards as an impossibility and which he denies is really sayable at all

(105)

This last passage contains the core idea of Diamond's diagnosis: someone who sees nonsense as arising from an illegitimate combination of meaningful signs is committed to viewing a nonsense 'sentence' as after all saying something. I regard it as doubtful, however, that just holding that 'whether a sentence makes sense or not is functionally dependent on its parts' really does commit one to such an *immediately* self-refuting view. Russell, for example, takes meaningless sentences to be meaningless in virtue of the meanings of their component words, but he is not, on the face of it, thereby committed to holding them to be meaningless in virtue of what they mean.

Consider, for example, his explanation of why ' $\varphi(\varphi \hat{x})$ ' is nonsense. (Here I summarize a passage from Ch. 2, §2, of *Principia*.)⁴³ There cannot be values of a propositional function that 'involve' that very propositional function. For if there could be, the propositional function could never be determinate. It is indeterminate until all its values are determinate, but if any one of these values 'involves' the function itself, it will not be determinate until the function is. Consequently, there is no such thing as the value for $\varphi \hat{x}$ with the argument $\varphi \hat{x}$ or with any argument that involves $\varphi \hat{x}$. But that means the expression ' $\varphi(\varphi \hat{x})$ ' fails to express a proposition. Therefore it is not significant.

I detect no appeal here – not even an implicit appeal – to a notion of what the sentence says, nor any to a notion of what it would say if it made sense. The explanation appeals only to the entities which the various words mean, and the arguments for which propositional functions are 'defined' (that is to say, have values). If there is an incoherence in this explanation, it does not lie in any appeal to what the sentence says, or would say if, *per impossibile*, it made sense.

This point becomes more obvious if we consider how Russell would explain why 'Socrates is mortal' *is* meaningful. Russell would say that the sentence makes sense because the propositional function expressed by 'is mortal' yields a proposition as value for Socrates as argument. He would *not* say, and he is not committed to saying, that it makes sense because it *represents* Socrates as occupying the argument-place of the propositional function \hat{x} *is mortal*.

Similarly, no appeal need be made to what the sentence says, or would say, in a Russellian explanation of why 'Caesar is a prime number' is nonsense. Russell would say that 'Caesar' designates the individual Caesar, while 'is a prime number' expresses the propositional function \hat{x} is a prime number. He would point out that the propositional function \hat{x} is a prime

number is a propositional function yielding a proposition as value only for a class of classes of individuals as argument, and he would note that Caesar is not a class of classes of individuals.⁴⁴

It is this last remark, and similar ones, that cause Russell his real difficulties. The predicate 'is a class of classes of individuals', being a predicate of classes, ought not to make sense when predicated of individuals; but if not, then on the assumption that the negation of nonsense is also nonsense 'Caesar is not a class of classes of individuals' ought to make no sense either. It follows that the *explanation* of why 'Caesar is a prime number' is nonsense is itself nonsense.

The problem is quite general: because statements purporting to exclude certain entities from certain types themselves violate type restrictions, the theory is apparently committed to the truth of sentences that by its own lights make no sense. So there *is* an incoherence in the attempt to represent a sentence as meaningless in virtue of the meanings of its parts, but it is rather more deeply buried than Diamond's reading would make it seem. That said, it should be noted that while a Diamond-style critique does not work *in general*, it does work for a *special class* of nonsense 'sentences', namely, those containing predicates that purport to specify the *type* of an entity. As we have seen, Russell would have to count the sentence 'Caesar is a class of classes of individuals' as failing to express a proposition precisely because *Caesar is not a class of classes of individuals*. And to view the sentence in this way *is* plausibly to regard it as nonsense in virtue of what it means.

Logical syntax

With this background in place, I want to return to the theme that 'Logic must take care of itself'. In the *Tractatus* the closest Wittgenstein comes to cashing out this slogan is in the first of the remarks with which we began:

The rules of logical syntax must go without saying, once we know how each individual sign signifies.

(3.334; translation mine)

The discussion so far suggests the following interpretation of this remark: once we have a 'theory of symbolism' that 'establishes' the logical syntax of a language by specifying 'how each . . . sign signifies' there is no need for *rules* to tell us which strings of signs make sense and which do not, and so no need for a Theory of Types to motivate these rules. Instead, when a string of signs 'hosts' a symbolizing fact (a fact that has significance in the language) this will be apparent to one attempting to make sense of it: in a certain sense the presence of the symbolizing fact will 'speak for itself'. And since a 'theory of symbolism' states 'how' a sign

means,⁴⁵ but not 'what' it means, we attain the desired result that logical syntax is something that can be established 'without mention being thereby made of the *meaning* of a sign' (3.33).

Wittgenstein emphasizes that

In the language of everyday life [*Umgangssprache*] it very often happens that the same word⁴⁶ signifies in different ways – and therefore belongs to different symbols – or that two words, which signify in different ways, are apparently applied in the same way in the proposition.

Thus the word 'is' appears as the copula, as the sign of equality, and as the expression of existence; 'to exist' as an intransitive verb like 'to go'; 'identical' as an adjective; we speak of *something* but also of the fact of *something* ['s] happening.

(3.323)

Because everyday language tolerates signs that symbolize in different ways and so 'belong to more than one symbol', there is a gap between perceiving a sign and knowing how it symbolizes. We have to recognize the symbol *in* the sign (3.326), the sign being the perceptible part of the symbol (3.32); and since that is not always a straightforward accomplishment, we can occasionally form the wrong view about how a sign is symbolizing in a particular sentence.

Wittgenstein takes this fact to be the source of much (unspecified) philosophical error (cf. 3.323-3.324). (One thing he may have in mind is the ontology arising from the views of Russell c. 1901 – and of Russell's Meinong – which is connected with the idea that expressions such as 'the golden mountain' and 'the round square' function as genuine singular terms.) 'In order to avoid these errors', says Wittgenstein,

we must employ a sign-language [Zeichensprache] which excludes them, by not applying the same sign in different symbols and by not applying signs in the same way which signify in different ways. A sign-language, that is to say, which obeys the rules of logical grammar – of logical syntax.

(The logical symbolism [Begriffsschrift] of Frege and Russell is such a language, which, however, does still not exclude all errors.)

(3.325; translation mine)

So when constructing a sign-language we are supposed to set things up so that no sign belongs to more than one symbol, and so that signs which signify in different ways have very different – indeed, complementary – grammatical distributions (e.g. 'nobody' will never occur where a proper name can occur).⁴⁷

But if a properly constructed *Begriffsschrift* would avoid the errors possible in an ordinary language, one might wonder why Wittgenstein maintains that: 'All propositions of our colloquial [i.e. ordinary] language are actually, just as they are, logically completely in order [*logisch vollkommen geordnet*]' (5.5563)? Surely if natural languages encourage certain erroneous habits of thought, there is a sense in which they are not in perfect logical order just as they stand. I want to conclude by tying up this loose thread.

It is clear that there is indeed a sense in which this is so, but it is not, I think, the one at issue at 5.5563. The point there is that for the purposes of everyday linguistic commerce, the sentences of ordinary language are in perfect working order. Wittgenstein means that there is nothing defective about their expressive capacity; they are in no way vague or confused formulations of something conveyable with greater precision in a formalized language.

This interpretation seems to be confirmed by Wittgenstein's explanation to Ogden of what he had meant at 5.5563:

"... logically completely ordered' [logisch vollkommen geordnet]. By this I meant to say that the prop[osition]s of our ordinary language are not in any way logically less correct or less exact or more confused than propositions written down, say, in Russell['s] symbolism or any other 'Begriffsschrift'. (Only it is easier for us to gather their logical form when they are expressed in an appropriate symbolism.)

(Wittgenstein 1973: 50)

The advantage of a *Begriffsschrift*, then, is that it makes clearer the underlying logical form of sentences of ordinary language. Ideally, it would do so by making evident to us just how each sign is functioning – to what symbolizing fact it belongs. A properly constructed *Begriffsschrift* obeys 'the laws of logical syntax'⁴⁸ in the sense of not deeming to be well-formed strings of signs which contain no symbols.⁴⁹ But being a competent speaker of a natural language obviously does not require an insight into the workings of one's language of the kind afforded by a *Begriffsschrift*. A *Begriffsschrift* is merely an aid to those who might otherwise be misled *philosophically* by certain apparent analogies between functionally remote parts of the language. A properly constructed *Begriffsschrift* should act as a corrective to these tendencies, not by reforming everyday language, but by inculcating a proper sense of the distance between the surface grammar of natural languages and the underlying 'logical' grammar revealed by analysis.⁵⁰

Notes

- 1 Translation my own. The Ogden translation (which, unless stated otherwise, I use) has 'must follow of themselves'. I use the Ogden translation as my starting point, despite its problems, because, being partly Wittgenstein's own work, it has something of the character of a primary text. There is a modern, critical edition of the text in Wittgenstein 1989a.
- 2 Hereafter I shall refer to remarks from the *Tractatus* by proposition number alone.
- 3 See the extract from the letter to Russell of January 1913 quoted on p. 166.
- 4 Wittgenstein, of course, is primarily interested in nonsense 'sentences' that seem to convey a content, rather than transparent cases of gibberish.
- 5 I read this as saying: 'not because this is a symbol which is intrinsically impermissible'.
- 6 Cf. 5.4733.
- 7 In the *Principles of Mathematics* Russell says: 'The solution [to Russell's paradox] ... was that it is necessary to distinguish various types of objects, namely terms, classes of terms, classes of classes, classes of couples of terms,' (Russell 1903: §106, p. 107). (Of course, linguistic items are themselves 'objects', and so occupy a place within this hierarchy.)
- 8 It is, for example, no solution to Russell's paradox simply to stipulate that such strings as 'x is a member of x' are nonsensical, and then to set down syntactic rules that entail this, for one would still need to say why such strings should count as nonsense. Russell's Theory of Types, being a theory of which entities combine to yield propositions, is designed to provide the needed motivation.
- 9 The expression ' $(\exists x, y) \in {}_{1}(x, y)$ ' is not a sentence but merely a name of a 'form'. The continuation of the letter makes clear that Wittgenstein regards it as a *simple* sign.
- 10 I have supplied the needed quotes around 'a', 'R' and 'b', and rendered Wittgenstein's italics consistent.
- 11 Throughout I shall use this abbreviation for the 'Notes dictated to G. E. Moore in Norway', which is appendix II in Wittgenstein 1979.
- 12 I take a 'name form' to be an arbitrary name.
- 13 If McGuinness is correct, this letter would have been written only a few months before Wittgenstein began composing a 'summary' of his earlier ideas a document which McGuinness estimates that Wittgenstein wrote between October 1915 and March 1916, and which he conjectures contains the material that figures in the first seventy sides of *Prototractatus* (see McGuinness 1989).
- 14 Further details are contained in the introduction to Proops 1998.
- 15 As it stands, Wittgenstein's explanation needs a minor supplementation. If 'Plato Socrates' is to be a significant sentence in which 'Plato' and 'Socrates' function as typographically unitary elements what is necessary, obviously, is *either* that the word 'Socrates' has meaning as a name, while the fact that a token of 'Plato' stands immediately to the left of a token of a name has significance, *or else* that the word 'Plato' has meaning as a name, while the fact that a token of 'Socrates' stands immediately to the right of a token of a name has significance.
- 16 Otherwise it would not be true that we could establish the sign's syntax without stating its meaning (recall 3.33). For details of how one might go about identifying a noun phrase using non-semantic criteria see, for example, Radford 1988: Ch. 2, §§3–6.
- 17 In the *Notebooks* Wittgenstein describes the idea that 'it must be impossible for us to go wrong in logic' as an 'extremely important and profound insight', which he takes already to be partly expressed by saying: 'Logic must take care of itself' (Wittgenstein 1979: 2).

- 18 In this context we should read 'words' as 'meaning-bearing elements'.
- 19 The following remark from Diamond (1991: 197) seems to suggest the opposing view: '[T]he sentence "Socrates is identical" is legitimately put together, in the sense in which "Socrates is frabble" is, as far as its structure goes, legitimately put together. Both contain what are syntactically adjectives; all they need is for some adjectival meaning to be fixed for them. What I am emphasizing is that on Wittgenstein's view, the only thing wrong with "Socrates is identical" is the absence of an adjectival meaning for "identical". . . . ' By suggesting that 'is frabble' and 'is identical' function in these contexts as adjectives, Diamond implies that the strings in which they occur can be assigned a determinate syntactic structure.
- 20 I am grateful to Charles Travis for this point.
- 21 Here I have restored an emphasis present in the original manuscript of the *Moore* Notes, but lost in the published forms. (Cambridge University Library, G. E. Moore Archive, Ref: Add 8875, 10/7/1–3.)
- 22 Wittgenstein 1989b: 3.
- 23 Wittgenstein 1979: 70.
- 24 Whether there is such a thing as well-formed nonsense is of course a separate question. Richard Gaskin discusses considerations that might suggest an affirmative answer in his 1997.
- 25 See Russell 1990: 77. My understanding of the role played by Wittgenstein's 'theory of symbolism' in his resolution of the paradox owes much to the discussion in Sullivan 2000.
- 26 Here I am in agreement with Hidé Ishiguro. See Ishiguro 1981: 56.
- 27 Note that an 'illogical language' is conceived not as a language containing sentences that purport to represent impossible situations, but as a language in which symbols are impossibly combined. So when earlier in the *Moore Notes* Wittgenstein characterizes an 'illogical language' as 'one in which, e.g., you could put an event into a hole' (Wittgenstein 1979: 108), he should be taken to be discussing a language whose imagined symbols are supposed to consist of events and items with holes into which these events are put when one tries to form a sentence of the illogical language. A sentence of an 'illogical language' is thus an impossible attempt at a saying, not an attempt to say the impossible. Contrast Diamond: 'An "illogical language" would be one in which [the sentence "the event: the execution of Charles I in 1649, is in the crater of Vesuvius"] would say of an event that it was in a crater' (1991: 105).
- 28 See Diamond 1991, passim.
- 29 I have argued elsewhere (1998: Ch. 3, §1) that compositionality is the main ground Wittgenstein offers for the picture theory.
- 30 This problem has been posed in a particularly sharp form by Michael Dummett (see Dummett 1973: Ch. 1).
- 31 The term 'symbolizing fact' comes from the *Notes on Logic*. Wittgenstein says: 'The symbolizing fact in a-p-b is that, SAY a is on the left of p and b on the right of p' (Wittgenstein 1979: 94).
- 32 The facts involved are general 'a token of "Plato" etc.
- 33 We should think of symbols as the primary bearers of meaning (I take a symbol to be a symbolizing fact together with its meaning). Signs can also be said to have meaning but only in a derivative sense. They do so in virtue of there being facts about them that bear significance in a language.
- 34 Russell 1990: 66.
- 35 On 'symbol' see n. 33 above.
- 36 The equation here of 'significance' with 'syntactical correctness' would seem to be further evidence that Wittgenstein repudiated syntactically well-formed nonsense.

- 37 The remark is in English.
- 38 Russell cites the sign '\$\sigma^2\$' as such a sign (Russell 1990: 66), and it is the point of the theory of descriptions to argue that definite descriptions and other denoting phrases also function in this way.
- 39 Wittgenstein, of course, does countenance strings that are without sense (*sinnlos*) in virtue of the meanings of their meaningful parts, for that is just how he conceives tautology and contradiction (cf. *Moore Notes*, Wittgenstein 1979: 118).
- 40 See the extract from the letter to Russell of January 1913 quoted on p. 166.
- 41 Diamond 1991: 95-114.
- 42 Strictly speaking, this can only be the 'natural view' of nonsense 'sentences' that seem to contain words that are meaningful in the language (e.g. 'Plato Soctrates'). The natural view of 'The slithy toves did gyre and gimble', by contrast, would presumably be that it contains nonsense 'words' (i.e. 'words' that have been given no meaning in the language) and that, of course, is also Wittgenstein's view. But having noted this problem with Diamond's terminology, I shall continue to use 'the natural view' as a label for the view Wittgenstein is attacking.
- 43 Russell 1990: 40.
- 44 Because there are numbers at every level of the hierarchy above classes of individuals, there will actually be many such explanations, depending on where in the hierarchy we suppose the propositional function expressed by ' \hat{x} ' is a prime number' to occur.
- 45 It says to what 'symbolizing fact' a given sign belongs.
- 46 Notice that the word is something phonological or typographical: it can belong to more than one symbol. To say that *it* signifies is misleading, unless we mean that it signifies by belonging to a symbol that signifies.
- 47 Since these artificially constructed languages are 'set up' by means of stated formation rules, it is clear that Wittgenstein does not mean to exclude the possibility of such rules by saying that 'the rules of logical syntax must go without saying'. His point is best viewed as a combination of two thoughts. He means first that in the case of natural languages such rules which govern the combinatory possibilities of *signs* are unnecessary, and second that for both natural and artificial languages the idea of rules governing the combinatory possibilities of *symbols* is incoherent.
- 48 The phrase occurs in the remark to Ogden quoted on p. 172.
- 49 It follows that an improperly constructed *Begriffsschrift* could be said to 'break the laws of logical syntax' by counting as well-formed certain strings of signs that fail to 'host' any symbolizing fact. Note, however, that such a 'breach' does not involve framing a sentence that is improperly constructed on account of the meanings of its parts it has been the major burden of this essay to explain why Wittgenstein would have thought that such breaches or mistakes were impossible.
- 50 I am most grateful to Stewart Candlish, Gary Ebbs, Richard Gaskin, P. J. Ivanhoe, James Levine, Jamie Tappenden, and Charles Travis for detailed feedback on early drafts of this paper. I should also like to thank Richmond Thomason, Thomas Hofweber and James Higginbotham for more general advice and discussion. A version of the paper was presented in June 2000 at a workshop on the *Tractatus*, held at the University of Utrecht. I owe thanks to all those who participated in the discussion, and especially to Peter Sullivan, Thomas Ricketts, Warren Goldfarb and Michael Kremer. I should also like to thank the organizers of the workshop, Menno Lievers and Göran Sundholm.

References

- Block, I. (ed.) (1981) *Perspectives on the Philosophy of Wittgenstein*, Cambridge, Mass.: Harvard University Press.
- Diamond, C. (1991) *The Realistic Spirit: Wittgenstein, Philosophy and the Mind*, Cambridge, Mass.: MIT Press.
- Dummett, M. (1973) *Frege, Philosophy of Language*, 2nd edn, London: Duckworth. Gaskin, R. (1997) "Socrates is Identical": Wittgenstein and Categorial Nonsense', in Weingartner *et al.* (1997): 273–8.
- Ishiguro, H. (1981) 'Wittgenstein and the Theory of Types', in Block (1981): 43–59.
- McGuinness, B. (1989) 'Wittgenstein's pre-*Tractatus* manuscripts', *Grazer Philoso-phische Studien* 33: 35–47.
- Proops, I. (1997) 'The Early Wittgenstein on Logical Assertion', *Philosophical Topics* 25: 121–44.
- ——— (1998) 'Logic and Language in Wittgenstein's *Tractatus*', Ph.D. Dissertation, Harvard University.
- Radford, A. (1988) *Transformational Grammar*, Cambridge: Cambridge University Press.
- Russell, B. (1903) *The Principles of Mathematics*, Cambridge: Cambridge University Press.
- ——— (1990) *Principia Mathematica to *56*, with A. N. Whitehead, first published 1910–13, Cambridge: Cambridge University Press.
- Sullivan, P. (2000) 'The Totality of Facts', *Proceedings of the Aristotelian Society* 100: 175–92.
- Weingartner, P. et al. (ed.) (1997) The Role of Pragmatics in Contemporary Philosophy vol. 1 (Contributions to AWL vol. 5, ISSN 1022–3398), Vienna: The Austrian Ludwig Wittgenstein Society.
- Wittgenstein, L. (1922) *Tractatus Logico-Philosophicus*, trans. C. K. Ogden, London: Routledge & Kegan Paul.
- (1971) Prototractatus: An early version of Tractatus Logico-Philosophicus by Ludwig Wittgenstein, ed. B. McGuinness, T. Nyberg and G. H. von Wright, London: Routledge & Kegan Paul Ltd.
- (1973) Letters to C. K. Ogden with comments on the English Translation of the Tractatus Logico-Philosophicus, ed. G. H. von Wright, Oxford: Blackwell/RKP.
- (1979) Notebooks, 1914–1916, 2nd edn (1st edn 1961), ed. G. H. von Wright and G. E. M. Anscombe, trans. G. E. M. Anscombe, Oxford: Blackwell.
- ——— (1989a) Ludwig Wittgenstein Logisch-Philosophische Abhandlung: kritische Edition, ed. B. McGuinness and J. Schulte, Frankfurt am Main: Suhrkamp.
- ——— (1989b) Ludwig Wittgenstein: Wittgenstein's Lectures Cambridge, 1930–32, from the notes of John King and Desmond Lee, ed. D. Lee, Chicago: University of Chicago Press.
- (1995) Ludwig Wittgenstein Cambridge Letters: Correspondence with Russell, Keynes, Moore, Ramsey and Sraffa, ed. B. McGuinness and G. H. von Wright, Oxford: Blackwell.

7 Wittgenstein on grammar, meaning, and essence

Rede Rundle

In the middle and later Wittgenstein's use, the term 'grammar' enjoys an extensive application, covering not merely matters of concern to a traditional grammarian – such as word order, noun–verb agreement, sequence of tenses, and so forth – but relations of meaning or use more generally. It is the sense–nonsense divide, the division between the well- and the ill-formed, whether syntactic or semantic, that is to the fore. I propose to introduce three central topics which arise in this area, and which receive a distinctive treatment at Wittgenstein's hands. These are the connection between grammar and essence, the status of grammatical rules, and the question whether there can be surprises in grammar. In each case my concern is with a contrast between what may be said to be on the surface of language, and what may be regarded as hidden. The scope of this essay does not allow for more than the bare bones of an argument on many points. Further flesh is added in Rundle (1990).

Grammar and essence

It has been suggested that the distinguishing feature of analytical philosophy is to be found in the priority which it assigns to language over thought: it is through, and only through, a philosophical account of language that a comprehensive philosophical account of thought can be attained (Dummett 1993: 4). This is one aspect of the 'linguistic turn' in the subject which the twentieth century witnessed, but a more central feature is to be found in a shift on the nature of *essences*, the Copernican shift, due largely to Wittgenstein, which came with the view that essence is to be found, not in the world, but within *grammar*: '*Essence* is expressed by grammar' – Das Wesen ist in der Grammatik ausgesprochen (1958: I, §371), and 'it is not the property of an object that is ever "essential", but rather the mark of a concept' (1978: I, §73). The change in perspective which came with this shift was so great, that what followed deserves to be called the heir to what went by the name of philosophy, rather than a refinement and continuation of what preceded.

The approach which this relocation of essence requires us to reject is readily illustrated. By itself, the idea that essences or natures are essences

or natures of things or substances, and so are to be investigated and laid bare by probing reality, may be uncontentious, indeed obviously true. However, incoherence arises when the notion of essence comes, at the same time, to be associated with modal notions: in laving bare the essence of water, say, we are penetrating not merely to what water is, but to what water is of necessity – a formulation which runs together projected findings with definitional considerations. It is this attempt to straddle two very different domains that makes for the incoherence of the position: by all means conceive of the nature of water as something which awaits discovery, but once necessity is introduced we have to confine ourselves to what can be said of water given no more than our understanding of the term 'water', not to what can be revealed, however fundamental it may be, by empirical investigation. In considering what is implicit in the meaning of the term we are confronting the source of any necessity, but we are not now in the realm of the unknown; we are dealing with what anyone who as much as grasps that part of the language thereby appreciates.

To illustrate further, suppose it is said that the nature of God is wholly and completely mysterious. None the less, it is presumed that we have some idea *what* is being spoken of, that at least the term 'God' is not devoid of meaning; accordingly, what has a place in an account of that meaning cannot, if we do understand the term, be confined to the domain of the unknown to which we have yet to penetrate. Thus, if 'what is essential to being w' is thought to paraphrase 'what is comprised in an account of the meaning of "w", it cannot be the essence of God that is unknown. There are, at this level, no surprises in grammar. Moreover, it is only essence as associated with meaning, so essence as it lies within language, which is the source of necessity: God cannot but be all-powerful; omnipotence is of His essence. That is, a being simply could not be allowed the title 'God' if he were not omnipotent.

The attempt to straddle the domain of the empirical and the grammatical with a hybrid notion of essence often goes with a blurring of the distinction between the roles of the senses and of reasoning. A clear example is provided by Descartes, who tends to see the senses and the intellect or understanding as in competition as sources of knowledge, with the senses coming off worse in the comparison. Sight, touch, and so forth, are downgraded in favour of the more penetrating scrutiny which only the intellect can offer. The senses lead us astray, or at least are not the true sources of knowledge:

I know that even bodies are not strictly perceived by the senses or the faculty of imagination but by the intellect alone, and that this perception derives not from their being touched or seen but from their being understood; and in view of this I know plainly that I can achieve an easier and more evident perception of my own mind than of anything else.

Descartes' well-known illustration of the supremacy of the intellect is that of the wax which changes shape and colour on being heated (ibid.: 20). Nothing given to sense remains the same, but the identity of the wax is perceived by the mind alone. Similarly, while we normally say that we see men themselves, just as we see the wax, as far as sight is concerned we might be seeing nothing more than hats and coats which conceal automata. Rather, we *judge* that they are men: 'And so something which I thought I was seeing with my eyes is in fact grasped solely by the faculty of judgement which is in my mind' (ibid.: 21).

Is it reason or perception which tells me that the piece of wax I am now seeing is the same as one seen before? The question runs together two quite different considerations. Reason – better: grammar – could be said to determine what is to *count* as the same here, but the matter of fact, once the grammatical question has been settled, is to be determined by observation. Compare the different states of water, of H₂O, viz. as liquid, ice, and steam. We might not have had a use of 'water', or 'same substance', which spanned these three states, but in fact we consider the observed continuity of water as it changes from one state to another as warranting some such use. It has to be decided what the criteria will be for 'same' before questions of sameness can be raised. This grammatical preliminary cannot be dispensed with, but, once it is laid down, by fiat or by general usage, what the criteria are to be, it is left to observation and investigation to determine the particular matter of fact: is the ice in the bowl the same substance as the water placed in it earlier?

I say that the location of essence within grammar marks a critical break with past ways of thinking, but in recent times there have been accounts of meaning and necessity which might be thought to warrant a reinstatement of the older conceptions. Thus, Saul Kripke has argued that the actual constitution of a given object is necessary to that object: a table made of wood could not have been made of ice and still be the same table; indeed, had it been made of wood, but of some other wood, it would not have been the table that it is (1980: 141f.). This we can accept, but it is a mistake to suppose that it presents us with a notion of necessity which can dispense with the relevant linguistic considerations. It is a question of what counts as *this*, or the *same*, table; we have to do with a connection – between identity and constitution – that is as much within grammar as is one between *God* and *omnipotence*.

The relevant views on meaning present a more complex issue. It is argued that, in effect, differences in meaning are differences in what is meant, where 'what is meant' will, with terms of the relevant type, take us to something outside language; to a substance, for instance, if it is a matter of what is meant by 'water'. Once more, we may grant this first step, but it is a mistake to suppose that we are speaking here of meaning in the sense of word meaning, the concept which occurs in such a context as 'What is the meaning of "water"?' or 'What does "water" mean?'. A person

may mean all manner of things by, e.g. 'that liquid', but the phrase does not take on a different meaning depending on what is being singled out. He may be speaking of wine or water, milk or cough mixture; these are all liquids in the same sense of 'liquid', all picked out by 'that' in the same sense of 'that'. We explain the meaning of the word by making clear just how something has to be to qualify as 'liquid', where the criteria to be listed are those which our usage shows us to recognize as such, not possibly unknown conditions which might conceivably endow a word with numerous meanings of which speakers of the language are quite unaware. Hilary Putnam would have it that two people who use 'water' of chemically distinct substances have a different understanding of the term, even though what they go by in judging a liquid to be water is the same in either case (1975: 224). Given the agreement envisaged, there simply is no room for a difference in understanding.

I have claimed that Wittgenstein broke with the traditional conception of essence, but it may be suggested that his position is even more radical. Perhaps it is not so much a matter of relocating essence within language as of rejecting talk of essence altogether, at least with respect to some areas of the language. Thus, J. F. M. Hunter has suggested that Wittgenstein 'does not believe that there is anything essential to, e.g., thinking, or joy, or meaning Peter' (1994: 86). With respect to this last case, Hunter's claim is based on Wittgenstein's remark, 'The mistake is to say that there is anything that meaning something consists in' (1967: §16). However, as I understand Wittgenstein, while he is here denving that any act, episode or process, whether antecedent to or accompanying the relevant utterance, is to be identified with one's meaning something, that is not to deny the existence of all grammatical links between this and other concepts, where such links would be definitive of the essence of meaning something. Indeed, this very remark of Wittgenstein's could be offered by way of drawing attention to just such a connection.

However, it is true that, if such negative conditions count as part of essence, we may have some widening of the notion. 'Essence' may be used in a broad sense, according to which any correct grammatical observations about a concept, whether positive or negative, can be said to elucidate essence. In this sense, there will be questions of essence with respect to thinking just in so far as *think* is a term which stands in relation to other concepts. So, can one be said to think while one is asleep? One can firmly and passionately believe, but can one firmly and passionately think? These, clearly, are grammatical issues. The answers to them serve to delineate our concept of thinking; so, if you like, they circumscribe the essence of thinking. Again, when considering the question whether there are any limits to thought, it is appropriate to point out that not everything we do will *count* as reasoning (cf. Wittgenstein 1978: 80). It is a question, not of limitations in our powers of reasoning, but of limits imposed by grammar.

On the other hand, there is a narrower conception of essence in terms of necessary and sufficient conditions, and when Wittgenstein insists that there is not just one way in which thinking may be realized, not just one form that it takes, he is seemingly rejecting the possibility that we might distil an essence of thinking in this sense. And, of course, the alternative which he can be expected to advocate in such cases – namely, the family resemblance account of concepts – appears to stand in sharp opposition to this traditional view. We shall now dwell on this account with a view to exploring questions concerning sameness and similarity which enter into the topic of essence.

Essence and family resemblance

To take Wittgenstein's favoured example, there is nothing essential to being a game, say: any of the features we may cite – as providing a source of amusement, offering the opportunity to exercise a skill, or involving winning and losing – may be found wanting in the case of activities which none the less count as genuine games. If there is so much as a presumption in favour of a family resemblance analysis, then anything approaching a uniform characterization of philosophically interesting concepts – as with accounts of knowledge in terms of true and reasonable belief – may be a forlorn hope. However, while there is plainly a threat here to the applicability of any notion of essence, I do not believe that the family resemblance account is sufficiently compelling to trouble the defender of essence, as I shall now explain.

With family resemblance, understood literally, the distribution of facial features may be such that two members of a family have no feature in common. So Mary may have the same chin as Tom and the same nose as Tim, but Tom and Tim may differ with respect to all their features. The analogous pattern extends to family resemblance concepts generally, as is clear from Wittgenstein's invocation of the simile of the strands in a rope, where the extremities of the rope may have no strand in common (1958: I, §67). It is thus allowed that two things falling under the same concept should have nothing in common, but be related only through drawing from the same cluster of features. However, not merely is such a pattern not true to the way language works, I suggest, but the fact that it is admissible on the family resemblance scheme actually undermines that scheme, since if we had two ostensible instances of a single concept which did not even bear a direct likeness to one another in some relevant respect, then we should surely be prepared to say without further ado that the common description could not apply to both univocally. It is not Wittgenstein's claim that 'game', for instance, is simply ambiguous, that it presents us with a family of concepts; rather, the unity of the concept is to be found in the network of overlapping similarities. If I am right, then, at the point where we should, on this account, find the notion of essence inapplicable,

we meet with a shift to a different, and possibly unrelated, concept, rather than an instance of our original concept which defeats any attempt at discerning an essential condition.

So what *do* games have in common? In discussing this example, Wittgenstein urges us to look and see whether there is anything common to all games, and not simply insist that there *must* be something common. But we must make sure we are looking at the right range of activities, and Wittgenstein's example of a child throwing a ball at a wall may point us in the wrong direction: the child may be just playing around, and not actually playing a *game*. True, this is just one among a series of examples presented at *Philosophical Investigations* I, §66, but its inclusion reflects a neglect of a salient feature of games, viz. their character as *structured* activities. A game is a rule-governed activity involving an objective which has little or no attraction in itself, but which provides a focus for the endeavours of the participants, the satisfaction to be gained from the pursuit and/or attainment of the objective providing the rationale for the activity.

But would not the following provide a possible instance of family resemblance? Consider Romanticism in literature, and suppose that this involves a cluster of features: romantic literature is personal, subjective, the individual is of supreme importance; feeling is superior to reason, poetry is a spontaneous overflow of powerful feelings; poetic diction is to be rejected, classicism is to be opposed; there is optimism about the human capacity for goodness, admiration for the presumed innocence of children and peasants. Suppose, too, that there is no unifying thread to these characterizations, but that a work may be deemed romantic by dint of conforming to two or more of them in some measure. Is this not just family resemblance? One literary work qualifies as romantic through possessing traits F and G, another through being G and H, and a third through being H and H and H and H and a third through being H and H and H and the pattern which, H have claimed, spells the failure of the family resemblance conception.

However, it does not appear that this pattern would preclude us from giving a non-family-resemblance account of 'romantic' in terms of 'possessing two or more of the following features: . . .'. Each of our literary works would, on that definition, be seen to satisfy the same uniform condition. Wittgenstein would presumably treat this as he does the suggestion that something common to the various kinds of numbers is provided by the disjunction of the properties common to them, to which he replied: 'Now you are only playing with words. One might as well say: "Something runs through the whole thread – namely the continuous overlapping of those fibres" (1958: I, §67).

But is there anything amiss with the condition 'possessing two or more of the following features: ...'? Someone who introduced a neologism in terms of the characterization 'applies to x if and only if x is a bird or a bandage or a microphone' might well be described as merely 'playing with words', but if there is a range of features commonly found together in

various distributions in the way illustrated by 'romantic', there will not be the same arbitrariness. Indeed, if we have the literal notion of family resemblance in mind, then there will be just such a series of features which we draw upon in a way that matches the rough definition of 'romantic' hazarded above. It might also be that 'game', too, was to be associated with a parallel cluster of attributes, though I am inclined to think that a characterization along the lines suggested is more promising.

If Wittgenstein were to insist that a non-family-resemblance condition such as that offered for 'romantic' is to be dismissed, that we have only as much as resemblance can secure, then, to repeat, he has to face the difficulty of maintaining univocity. The conception of family resemblance in application to concepts appears to be one according to which we somehow move from game to game, say, on the basis of likenesses, rather than begin with a pool of features from which we must draw. That is, individual games provide a starting point for an extension of the concept *game* to other activities; we are not required to hark back to our list of characteristics to justify any extension, but the concept *game* is open-ended in a way not possible with the cluster model. This conception is appealing through its lack of rigidity, but the diversity of the criteria for the application of a word conforming to it would appear to require a denial that we have to do with a unitary concept.

On Wittgenstein's account, games present us with variously distributed recurrent features, and it is on these that the resemblances which make for character as a game are founded. However, we should not wish our notion of resemblance to be confined to cases which may be thought of in these terms, as with the distribution ab, bc, cd, where it is allowed that ab and cd should be as unlike one another as one might wish. Take the term 'run' in the very different phrases, 'chicken run', 'run of luck', 'run scored in cricket', 'run in a stocking', 'run on the pound', and 'fun run'. There are similarities, affinities, here, but is that a matter of recurrent identifiable features? We might well speak of a likeness with respect to the term as it occurs in 'run of luck' and in 'run in a stocking', but this is surely falsified if we represent it as a matter of there being something which is recognizably the same in each. Resemblance does not necessarily reduce to sameness in the company of a difference. Moreover, on the strength of the affinities between the various things which go by the name of 'run' we may speak of a family of concepts, but we are surely confronted by a number of different meanings of the word, so not a family resemblance concept. And this is the general case. So long as we can speak only of likenesses, we shall, in general, have only likeness in meaning, not a single concept.

To see how a more adequate, though related conception may be reached, consider the question of what is common to the various shades of blue. One may find oneself without any resources for giving an answer beyond an unhelpful insistence that there is patently a single colour which all the

shades exemplify: they may be lighter or darker, more or less saturated, but they are all blue – an observation which, in a desperate attempt to convert into an explanation, some have construed as 'sharing in the universal blueness'. On the other hand, if we can do no better than this in isolating what is common, and if we are impressed by the sheer range of shades, we may be tempted by the reply that only the *name* is held in common – the nominalist's resolution of the difficulty. However, there is also the reply that the various shades have *nothing* in common; they simply resemble one another. Or, if the first of these observations sounds too paradoxical, we can say that their having something in common, their all being blue, just is to be understood in terms of resemblance, that we locate a shade within this grouping on the strength of its likeness to the other members. And this, I suggest, is how we should look at the example of colour generally. We can have sameness in meaning keep in step with sameness on the side of the objects – as we should wish – finding what is common to the objects which qualify as blue not in a recurrent feature understood in accordance with the rigid model of sameness in the company of a difference – but in the network of *mutual* resemblances which unites the blues and excludes the non-blues.

It was suggested that, so long as we can speak only of likenesses, we shall, in general, have only like meanings, not a single concept. This raises the question why 'blue' is different. One answer is that we group under this term all of a series of like shades, ab initio, as it were. That is, we do not start with a core sense - as might go with 'run' to signify the act of running – and then extend the term to other items which bear some resemblance to our prototypical case. Rather, it is the network of mutual resemblances between the diverse shades of blue that holds them together. The set is closed under a suitable relation of similarity, and any two shades of blue bear a *direct* relation to one another relevant to their common categorization. This is not to deny that there can be degrees of resemblance; nor is it to deny that some range of blues may be treated as central, others - notably shades which overlap with other colours, as with greenish blue - being deemed less so. We might also put it this way. The rationale for speaking of a single *meaning* is to be given in terms of a single condition one which, with respect to 'blue', is specifiable in terms of resemblance. In the other case, resemblances provide the rationale for using the same word: given the likenesses, the various extensions of 'run' are not arbitrary, but in so far as the various likenesses do not provide the basis for a uniform condition, there is no call to speak of a single meaning.

Examples such as that of 'run' favour a very different pattern from that of family resemblance; a pattern, namely, where we have one or more central meanings of a term together with extended or transferred uses or senses. This pattern is readily seen with words for parts of the body, as 'hand', 'foot', 'eye', 'mouth', 'heart', 'head', and 'arm'. Take 'head'. This enjoys a central use with respect to a human or animal head, a use which

is then extended in various ways. Most obviously, we have extensions to things resembling a head in form or function, as with the head of a nail, the head of a school, the head of a queue, the head on a glass of beer, and a head of steam. As well as resemblance, we have extensions by way of various figures of speech. When a ticket is said to cost £5.00 per head, 'head' stands in for the whole of which it is a part - a matter of synecdoche. Again, if a person is said to have a good head for figures or to lose his head, the term is transferred from that part of the anatomy deemed to be the seat of a mental attribute to that attribute itself. Again, no question of resemblance. However, even when it is a matter of resemblance, the resemblance tends in each instance to be to the central anatomical case. The model is not, as with family resemblance, one of a chain or series, ab, bc, cd, but of a hub of a wheel with spokes radiating out from it, where the hub is the core use and the spokes take us to the derived uses.

If the likenesses which bind the diverse shades of blue together are not to be thought of on the model of a recurrent feature, are we excluded from speaking of the essence of blue? Since it would appear that the relevant pattern justifies us in speaking of a single meaning of the word, there would appear to be no objection to speaking here of essence. It is not a case of family resemblance, since the relation of resemblance is being required to hold between any two shades if there is to be the requisite unity to the grouping. Nor is it like the case of 'run', where the term is taken to extend to items as diverse as runs on the pound and runs in stockings. However, while the unity which would justify talk of essence is lacking in this instance, we should in general not be over-hasty in ruling out the possibility of discerning a shared character. Consider again 'head'. Despite the range of uses noted, it is possible to discern a degree of unity in so far as we have various realizations of the notion of an uppermost part. Compare, similarly, how 'foot' can be associated with a common condition despite applying to things as diverse as a human foot, the foot of the stairs, the foot of a page and the foot of a mountain; a matter of the lowermost part of these items. The notion of an essential condition is consistent with diversity, so long as it is diversity within the relevant bounds, but, once we move to extended or figurative uses of language, we are no longer able to sustain the notion of a common essence. So, in the phrase 'lose one's head' the term 'head' may be said to mean something different depending on whether decapitation or becoming rattled is in question. But then, once we have to do with a shift in meaning, there is no question of seeking a uniform condition.

On the other hand, if we have a term which behaves in the way suggested for 'romantic', we may be reluctant to speak of a common essence, there being a degree of diversity or disunity not in keeping with this notion, even though a single condition is, as it were, formally available. Again, while we may be able to discern a common strand in the diverse uses of a given term, the notion of essence may come under pressure for reasons to do

with indeterminacy of meaning. This indeterminacy may take a number of forms. So, how big can a suitable piece of wood be and still count as a twig? How great can the spaces be in a line of bushes for us still to have a hedge? One interesting possibility here is the following. Take the word 'hyacinth'. Like many other nouns, this applies to things which present an array of features. Since these features tend to come together, we have not had to face the problem of deciding which are necessary and/or sufficient to being a hyacinth, so while there will be many true negative statements relating to essence – grammatical statements such as 'A hyacinth is not a cooking utensil' – it may be that we are unprepared to formulate any condition which might define essence in the narrower traditional sense. It is not that we have not put the relevant conditions into words; it has not been decided what those conditions are. Interestingly enough, we might also be reluctant to speak of the *meaning* of 'hyacinth', given that there is neither a synonym for the word nor a breakdown in such terms. In this it would compare with a proper name, such as 'Brian' or 'Jones', where talk of meaning is quite evidently out of place.

Rules and practice

In his discussions of grammar, and of language generally, Wittgenstein makes considerable use of the notion of a rule; not always appropriately, I suggest. The notion he employs is somewhat stretched – a signpost or a colour chart being reckoned as a rule – but this is not the reason for my misgivings. Of greater concern is the way the notion figures in such pronouncements as 'we are interested in language as a procedure in accordance with explicit rules' (1974: §32), and 'The rules of grammar distinguish sense and nonsense' (1980a: 47). Or again, 'If grammar says that you cannot say that a sound is red, it means not that it is false to say so but that it is nonsense – i.e. not language at all' (ibid.). The question is one of the standing, of the reality, of these rules. Where, one might ask, do we find grammar saying anything? What, in more literal terms, does this mean? The problems posed relate primarily to Wittgenstein's thought in the transitional period from which these quotations are drawn, but they continue to be felt, if to a lesser degree, in the later writings.

My misgivings can be indicated by elaborating the following distinction: a rule may antedate a practice, in which case we look to it for guidance in determining whether a procedure is correct or not; on the other hand, it may be the practice itself that comes first, and then the acceptability of the rule is judged by its fit with that practice. It is readily seen that linguistic rules are by and large of the second kind, and that talk about them is accordingly dispensable in favour of talking directly about the practice.

Consider how such rules may arise. First, it may be that there is a body or authority which aims to shape or dictate linguistic practice, as when the French Academy lays down rules which speakers and writers of French

are urged to follow. Second, when seeking to instruct others in the use of a language, we may formulate rules specifying how one is to proceed in matters of grammar, spelling, pronunciation, and so forth, if - ideally one is to pass as a native speaker. In the first case, the rules do not have to answer to any generally accepted practice. On the contrary, they may conceivably fly in the face of common usage, having little or no precedent in the speech habits of the community at large. In the second case, by contrast, we should be concerned if following the rules devised did not lead to speech in conformity with those who had already mastered the language. If, for example, our rules fail to give guidance about an important range of cases, they will be revised accordingly; if what they prescribe is actually at odds with usage, they will be scrapped altogether. There is room for a decision as to just which subgroup of speakers is to define the norm, but once this is settled we have a practice against which the rules can be assessed for acceptability. Whatever significance a rule has it has simply as codifying that practice, as providing a means of reproducing or mimicking it. Conformity with the practice has priority: it is against this that we measure not only the learner's speech, but the rules themselves. So, although the notion of correctness may be thought to take us straight to that of a rule, the latter presents us with a superfluous intermediary; as noted, rules are of value as a means of codifying the practice, but what really matters is agreement with the underlying patterns of usage.

We may also note that, while talk of rules or of the practice which they aim to represent may come to much the same thing, it is only when a rule formulation exists that we can justify talk of applying or consulting, of misinterpreting or being guided by a rule, notions which come into their own with the teaching and speaking of a second language, but which have relatively little to do in describing how the native speaker comes to say what he says. Nor, when they lack the reality which a formulation confers, does it help to relocate rules in mind or brain, as part, perhaps, of our innate endowment; that does nothing to reinstate ways of speaking which require that we make sense of rules as guides to practice, as susceptible of misunderstanding, or indeed as having any kind of descriptive or normative role whatsoever.

If rules of language were somehow prior to actual speech, it could be that the rule for word order in English specified that we were to say 'bit arm my the mosquito' instead of 'the mosquito bit my arm'. Anyone who held that the former was sanctioned by a rule of English would, of course, be talking nonsense. Not so, however, if rules enjoyed an existence independent of the practice, rather than having, if only sometimes as an idealization, to answer to it. But is it not possible, as linguists often claim, that much of what we say is grammatically incorrect? If so, how can the actual language be the source of the rules defining correctness? This possibility is easy to accept if we are talking of prescriptive rules, rules which come about in so far as there is an authority which lays down what is to

count as correct usage. This is indeed a case where the rules could come first, but it is equally clearly of secondary importance, languages being able to flourish without there having to be any such authority. More interestingly, it is often claimed that most of what we say is incorrect by ordinary standards – sentences with missing words, ill-formed constructions, and so forth. Here, however, it will be our knowledge of actual practice which enables us to explain how a construction is ill-formed, why a sentence is incomplete, and so on. It is no doubt a non-trivial exercise to give criteria of well-formedness, but the distinction between the well- and the ill-formed is one made within actual language use, sentences being judged illformed, or incomplete, when set against examples without these recognizable defects. Once more, it is not as if what was in accord with the rules of the language might be something which, as far as native speakers were concerned, followed a pattern that was quite alien; as if such and such a rule were laid down, indeed, but for some reason nobody bothered to observe it. If there were such rules we should none the less rightly not regard them as having anything to do with our practice; even were we somehow to know of them, the task of formulating real rules, rules which made contact with the language, would still be with us. Compare attempts to give the 'logical form' of sentences in a natural language by appeal to rules for the construction of a formal language, such as that of first-order logic.

These observations may be thought to show that rules come into being only with their actual formulation, so that there were no grammatical rules until there were grammarians, however humble. But we are not obliged to restrict talk of rules in this way, although, as remarked, a formulation of a rule is required to make sense of such a notion as that of *consulting* a rule. The present position is better indicated by saying that the existence of linguistic rules, at its most general, is of a piece with the existence of patterns in speech and in writing. These, after all, are taken to show that there is a rule. And not just as a hypothesis. But if not just as a hypothesis, then surely more by way of a redescription: that there is a relevant rule follows from the existence of the pattern. It is when, quite inappropriately, we take the existence of a rule, and therewith the idea of following a rule. as involving something more of substance than is given by its status as a redescription of practice, that difficulties arise, as with the problem of clarifying how it is that a rule - which, after all, might be one we are quite unable to formulate – comes into contact with the practice. If there simply are not two things to be brought together, if there is no such item to be related to our practice, if the rule is no more than a codification of the latter, a recipe derived from it, the problem in this form would appear to have been dissolved.

But if we are not guided by rules in a way which involves consulting those rules, how is it that our use of language is as it would be if we were following rules in this more conscious fashion? How is it that our speech shows the patterns, the regularities, which are describable as 'rule-governed', at least in the sense that rules can be devised to which they conform? Indeed, rules seem inevitably to come into play, and to come into play with more than a derivative instructional role, when we extrapolate to new cases.

Suppose someone finds it a problem that we should extend words to novel items, given that we learned them in association with only a limited range of particular objects. So, let us suppose we learned 'green' and 'cucumber' with respect to given samples. Does it not require a feat of abstraction, of generalization, to extend these descriptions to a new selection of things? But why should it? There is a problem only if there is something that has somehow to be dropped if the newness of the further items is not to be at odds with what we have learned up to this point. But perhaps we simply did not form an association of the words with anything not also met with in the further items; perhaps these are just as much, and in the same way, green, or cucumbers, as were our original samples, so that there would have been no difference in what we took away from our lessons, whatever specimens had been selected for teaching purposes. What we learned in learning that 'green cucumber' characterized this vegetable was precisely that this phrase attaches to anything indistinguishable in certain respects. No theory of abstraction has to be called upon; we do not need to have a new lesson, or forget something picked up in the old, to make the extension.

Or again, consider how adjectives are ordered in English. We happily say 'several small, thin, yellow, plastic tubes', but not, for instance, 'small, several, plastic, yellow, thin tubes'. The permissible orderings reflect a pattern - roughly, from the more to the less inclusive classes, and beginning with terms, associated with number, which do not introduce a further differentia of a class – and what I am substituting for the notion of applying a rule is the notion of the recognition of a pattern. True, the recognition may be shown only in the relevant usage, but at least there will be something that falls within our knowledge in a way that makes talk of recognition appropriate. This is the important condition. We may find it puzzling that it should be possible to give the rationale for our usage in some such way, when most native speakers are unlikely to be ready with an account of that rationale, however consistently their practice conforms to it. However, what matters is that the information should be accessible, the patterns there for us to become attuned to. That we should be able to articulate the rationale is extraneous to that more basic consideration.

If the practice enjoys priority over the rule in the way I have argued, we should not invoke rules to explain why something is nonsense, let alone see such rules as *determining* what is and what is not nonsense, a role suggested by Wittgenstein's claim: 'The rules of grammar distinguish sense and nonsense and if I use the forbidden combinations I talk nonsense' (1980a: 47). Suppose we have a rule which disallows the combination 'red

sound'. The sentence, 'He produced a red sound', could then be said to be nonsense because it violates this rule, but only in the uninteresting sense that it violates a rule aimed at proscribing a form of nonsense. The sentence is not nonsense simply because it violates a rule; rather, it is because it and similar sentences are nonsense that the rule is describable as one that proscribes nonsense. The nonsensicality of the combination comes first; since our practice does not allow us to make sense of this combination, we have the basis for a rule which would forbid it.

Meaning and explanation

The later Wittgenstein presumably would never have claimed that, in general, linguistic rules precede actual practice, but this was a way of looking at language which he favoured in the thirties, and later invocations of rules sometimes suggest a questionable reliance on this perspective, as when he speaks of 'the rule which shows that the word "is" has different meanings' (1958: I, §558), or when he states that in the absence of rules the word 'not' has as yet no meaning, and, if we change the rules, it now has another meaning (1958: 147). Again, his implicit acknowledgement that we are not equipped with rules for every possible application of a word maintains rather than rejects the appeal to rules (1958: I, §80). We might also mention that when the notion of following a rule, modelled on such explicit mathematical examples as 'Add 2', is considered by some to be the source of a problem for language use generally, it would appear that the idea of a rule as something there to *interpret* is likely to play a role in getting the problem under way, and any conception of rules as normative needs to place emphasis on formulations of rules.

When speaking a language is likened to a procedure carried out in accordance with explicit rules, it will appear that there are, as Wittgenstein says, no surprises in grammar. However, if, as I have suggested, the rules are only implicit in the practice, there is greater scope for making discoveries, discoveries which may well be unexpected. Wittgenstein's contrary view is of a piece with his conception of explanation in this domain. Our knowledge, our concept of a game, is completely expressed in the explanations we could give, where such explanations take the form, not of a specification of necessary and sufficient conditions, but of describing examples of various kinds of game, showing how you can construct games analogous to these, refusing this description to other activities, and so forth (1958: I, §75). Compare the position implied in the following queries: 'How can I explain the word "same"? – Well, by means of examples. – But is that all? Isn't there still a deeper explanation; or must not the understanding of the explanation be deeper? – Well, have I myself a deeper understanding? Have I more than I give in the explanation?' (1978: 420). Wittgenstein's conception may also appear to be in harmony with our initial remarks concerning essence and meaning, when it was maintained that we explain the meaning

of a word by making clear just how something has to be for that word to apply, and where the criteria to be enumerated are those which our usage shows us to recognize as such, not possibly unknown conditions which might conceivably endow a word with numerous meanings of which speakers of the language could be totally unaware.

However, while I do not allow that the meaning of a familiar word might be hidden just in so far as the nature of what that word applies to is unknown, I do not, as I say, believe that everything is on the surface in the way that Wittgenstein's conception of explanation would suggest. First, merely giving examples may be woefully inadequate, as words such as 'mortgage', 'testament', and 'licence' readily illustrate. Samples of water may be all that an explanation of 'water' may draw upon, but these would not do for 'H₂O'. A mute proffering of samples is not enough, but we have to make clear what it is about the samples that makes them such; 'water' and 'H₂O' agree in their reference, but they are not synonyms, an understanding of the latter requiring an understanding of 'oxygen', 'hydrogen', and the notion of valence. Second, just as rules are, as it were, buried in our practice, so too are the conditions to be cited in specifying the meaning of a word. Our understanding cannot be exhausted by the procedure Wittgenstein sketches, but knowledge of one's native language is essentially of a practical, non-reflective, inarticulate character. A speaker may be competent in an area of the language where the rules, if formulated, would be complex, yet he may be quite unable to give an adequate account of his practice. He may not go so far as to misrepresent that practice – though this is not unlikely – but it may be beyond him to give an account that is adequate to the subtleties of usage of which he displays an undoubted mastery. And I am not thinking of rules of a kind which only a grammarian or linguist would be able to understand, but rules which could be formulated without any intrusion of theoretical notions beyond the ken of the speaker. Consider the difference between 'may' and 'might'. These are not used interchangeably, but it takes time to frame an account of their difference. Or take the definite article. Misuses of 'the' which a non-native speaker might commit are easy enough to detect, but formulating rules for its use is of another order of difficulty altogether. We have no trouble giving examples of correct and incorrect usage, but these will serve to explain the use more generally only if the learner is thereby apprised of the principles governing the choice of example.

Similarly with subtle differences in meaning, as with such pairs as 'shut' and 'close', 'strike' and 'hit', 'almost' and 'nearly', 'start' and 'begin', or 'little' and 'small'. These last two are often used interchangeably, but we should prefer 'little' to 'small' in the phrases 'he showed little interest', 'her pathetic little smile', and 'a little thought', whereas 'small' is our choice in 'a small chance', 'small change', and 'she made him feel small'. Extending this list provides us with the materials for an explanation, something to test our hypotheses against. Is one word rather than the other

favoured if the noun is a non-count noun? Is one rather than the other more readily used figuratively, or to convey a suggestion of insignificance? It is in answering such questions as these that we may arrive at an explanation of meaning, whereas just listing examples of correct and incorrect usage may leave our learner as much in the dark as ever. He has to take away something more general than the examples we offer, has to become equipped to extend his usage correctly to new cases.

Think, too, of the diversity of philosophical opinion on the proper analysis of 'know', 'if', and, indeed, 'meaning'. Philosophers may have preconceptions which make an accurate account difficult to attain, but the plain man may have even less to contribute through inarticulacy. Wittgenstein remarks that we should be astonished if someone who understood the word 'bank' could give no answer when asked what a bank is (1980b: §679). That is no doubt so, but it is far from clear how far the observation can be generalized. It would be ironical if such philosophical troublemakers as 'mind' and 'meaning' could succumb to explanations which were immediately available to anyone who had as much as mastered their use.

Conclusion

To sum up, we may conceive of essence in a narrower and a broader sense. Essence in the narrower sense may be thought to come under threat from Wittgenstein's family resemblance account of concepts. However, at the point where the threat materializes, we have reason to regard that account as wanting. We can, it is true, find concepts whose applicability is determined by a pattern of resemblances, as with colour concepts, but we require that any two instances of the concept bear the relevant resemblance to one another, a requirement which is not met by family resemblance. Whatever our verdict here, to locate essence within grammar is to rescue it from the domain of the unknown in which, for instance, the inner constitutions of things belong. On the other hand, the connection with knowledge is not so straightforward that everything pertaining to essence, or to grammar and meaning generally, can be said to be transparent to those who speak the language; it is, rather, that one who has mastered the language is in possession of all the materials needed to answer questions of meaning. However, while there is nothing in world, mind or brain that needs to be investigated, considerable reflection on the language, on its complex patterns of usage, may be required before such questions can be adequately answered. If we are merely assembling reminders of what we already know, making clear just what it is that we do know may none the less be a difficult and a challenging task.

References

- Descartes, R. (1984) *Meditations on First Philosophy*, in *The Philosophical Writings of Descartes*, Vol II, trans. J. Cottingham, R. Stoothoff and D. Murdoch, Cambridge: Cambridge University Press.
- Dummett, M. (1993) Origins of Analytical Philosophy, London: Duckworth.
- Hunter, J. F. M. (1994) 'Wittgenstein on Grammar and Essence', in S. Teghrarian (ed.) *Wittgenstein and Contemporary Philosophy*, Bristol: Thoemmes Press.
- Kripke, S. (1980) Naming and Necessity, Oxford: Blackwell.
- Putnam, H. (1975) 'The Meaning of "meaning", in *Mind, Language and Reality: Philosophical Papers Vol. 2*, Cambridge: Cambridge University Press: 215–71.
- Rundle, B. (1990) Wittgenstein and Contemporary Philosophy of Language, Oxford: Blackwell.
- Wittgenstein, L. (1958) *Philosophical Investigations*, ed. G. E. M. Anscombe and R. Rhees, 2nd edn, Oxford: Blackwell.
- (1967) Zettel, ed. G. E. M. Anscombe and G. H. von Wright, trans. G. E. M. Anscombe, Oxford: Blackwell.
- (1974) *Philosophical Grammar*, ed. R. Rhees, trans. A. J. P. Kenny, Oxford: Blackwell.
- (1978) Remarks on the Foundations of Mathematics, ed. G. H. von Wright, R. Rhees, G. E. M. Anscombe, trans. G. E. M. Anscombe, rev. edn, Oxford: Blackwell.
- (1980a) Wittgenstein's Lectures, Cambridge 1930–32, from the notes of John King and Desmond Lee, ed. D. Lee, Oxford: Blackwell.
- —— (1980b) *Remarks on the Philosophy of Psychology*, vol. I, ed. G. E. M. Anscombe and G. H. von Wright, trans. G. E. M. Anscombe, Oxford: Blackwell.

8 Nonsense and necessity in Wittgenstein's mature philosophy

Richard Gaskin

Essence is expressed by grammar.

Consider: 'The only correlate in language to a natural necessity is an arbitrary rule. It is the only thing one can extract from this natural necessity into a sentence.'

It is grammar that says what kind of object something is. (Theology as grammar.)

Wittgenstein, Philosophische Untersuchungen I, §§371–73¹

Categories and nonsense

One of the most striking features of the philosophy of the middle and later Wittgenstein is his decision, exemplified in the above quotation, to assimilate necessary truths to arbitrary rules of grammar. These truths include not only analytic ones, but also any considered to be synthetic a priori, such as truths which might be regarded as, in a broad sense, having to do with categorial propriety. Under the heading of truths of categorial propriety we may further distinguish two subclasses.

First, there are *intra*categorial truths, such as 'No object is simultaneously red and green all over'. Properties group themselves into systems of determinables, the defining characteristic of such systems being that any given determinable may (assuming, where necessary, suitable relativization) be determined only once. If something is one sort of substance, for example a man, it is not also another sort of substance, for example a horse; if it has a length of exactly 5 cm (at a time), it does not also have a length of exactly 6 cm (at that time); if it is red all over (at a time), it is not also green all over (at that time). That properties form such systems is a point which Wittgenstein had overlooked in the *Tractatus*, but came to acknowledge after his return to philosophy in the late 1920s.²

Second, there are *inter*categorial truths. We may think of a category theory as dividing things – or, alternatively, linguistic expressions – into certain fundamental varieties. Different theories may be keyed to different philosophical purposes, but any such theory will at least aim to uncover necessary features of reality (or language). That makes available a certain

kind of categorial impossibility (or nonsense). It is fundamental to Aristotelian category theory, for instance, that things in the so-called 'accidental' categories (i.e. all categories other than that of substance) are predicated of things in the category of individual substance (*Categories* 2a34–2b6). Correspondingly, attempts to predicate one 'accidental' item of another such item risk being improper (unless they can be reduced to the official format). This structural feature of Aristotelian category theory can model such synthetic a priori truths as 'No colour has a weight'. If 'No colour has a weight' is necessarily true, one would expect something like 'The colour red weighs three pounds' to be necessarily false, for the statement 'It is not the case that the colour red weighs three pounds' seems to be derivable from 'No colour has a weight' with the help of premisses that are themselves necessary, as follows: No colour has a weight; the colour red is a colour; anything that weighs three pounds has a weight. Hence it is not the case that the colour red weighs three pounds.³

What effect does Wittgenstein's assimilation of categorial truths such as 'No colour has a weight' to arbitrary rules of grammar have on his treatment of necessary falsehoods like 'The colour red weighs three pounds'? If 'No colour has a weight' is, in effect, a stipulation on how to use (in particular) the words 'colour' and 'weight', we should expect breaches of that stipulation, such as 'The colour red weighs three pounds', to count as nonsense. And that is in fact what we find Wittgenstein saying in his middle period. In an extended passage in the *Philosophische Grammatik*, for instance, where Wittgenstein is examining the sentence 'I'm dividing red up', he writes

Now if one is thinking of a particular system, a language-game together with its application, then [the claim] that 'I'm dividing red up' is nonsense is above all [a claim to the effect] that this expression does not belong to the particular game its appearance makes it seem to belong to. If, now, we do give a sense to the set of words 'I'm dividing red up', how do we do it? – Well, we can in fact make quite different things of it: an empirical statement, an arithmetical statement (like 2 + 2 = 4), an unproved mathematical statement (like the Goldbach statement), an exclamation, and other things. I therefore have a range of equally available options: how is it bounded? That is hard to say – by various types of utility, and also by the expressions' formal similarity [die formelle Ähnlichkeit der Gebilde⁴] to certain primitive forms of statement; and all these boundaries are blurred.

(1973: 126)

That Wittgenstein really does intend here to say that a sentence like 'I'm dividing red up' is quite literally *nonsense*, and not merely false, not even necessarily false – options which would leave it open to say that the sentence *does* 'belong to the particular game its appearance makes it seem

to belong to' – is confirmed by a passage in Desmond Lee's notes on Wittgenstein's 1931 Cambridge lectures:

If grammar says that you cannot say that a sound is red, it means not that it is false to say so but that it is nonsense - i.e. not language at all. . . . Grammar circumscribes language. A combination of words which does not make sense does not belong to language. Sense and nonsense have nothing in common.

(Wittgenstein 1980a: 47f. Cf. 97f.)

Indeed this position might be said to be overdetermined in the philosophy of the middle Wittgenstein. According to G. E. Moore's notes on Wittgenstein's 1930-3 Cambridge lectures, Wittgenstein held at this time that statements of rules of grammar are strictly speaking nonsensical (Moore 1993: 60ff., 103). The claim, as Moore notes, recalls the *Tractatus*: one thinks here especially of 6.54, where the *Tractatus*'s own formal statements are said to be nonsensical (unsinnig). Wittgenstein also at this time insisted on a principle which he claimed 'gave us some firm ground', and which we may dub the 'negation constraint': 'If a proposition has meaning, its negation also has meaning' (Moore 1993: 56f., 68).5 If, as seems allowable, we strengthen the 'if' of this constraint to an 'if and only if', we may infer that the negations of statements of grammatical rules are nonsensical, and hence – assuming (rather boldly) that we can make sense of the obtaining of entailment relations among nonsensical items - that statements which entail those negations (such as 'A sound is red', which entails the negation of 'No sound is red') are likewise nonsensical.

Necessary truths as arbitrary rules of grammar

I noted that Wittgenstein assimilates necessary truths to *arbitrary* rules of grammar. What does 'arbitrary' mean in this context? In the 1931 lectures grammar is said to be arbitrary in two senses: that it has no justification, and that we could frame its rules differently. These two senses are intimately connected. The idea is that although the sentence 'I'm dividing red up' does not belong to our game of colour words, there is no *reason* why it does not belong, and different games, which incorporate that sentence, are devisable; hence you cannot point to reality – to the nature of colours – to *justify* the exclusion of that sentence from our particular game. The system of colours is *constituted by* the game we play with colour words; it is not *antecedent to* it. This point is made especially clearly in a passage in *Zettel*:

We have a colour system as we have a number system. Do the systems reside in our nature or in the nature of things? How are we to put it? -Not in the nature of numbers or colours. Then is there something

arbitrary about this system? Yes and no. It is akin both to what is arbitrary and to what is non-arbitrary.

(Wittgenstein 1981: §§357–8, trans. Anscombe)

I have explained the sense in which Wittgenstein thinks that grammar is arbitrary. It is non-arbitrary, according to Wittgenstein, in the sense that it may be psychologically or pragmatically unavoidable for us. That, I think, is how we should read the following passage from *Zettel*, which comes shortly after the one just quoted:

Yes, but has nature nothing to say here? Indeed she has – but she makes herself audible in another way. 'You'll surely run up against existence and non-existence somewhere!' But that means against *facts*, not *concepts*.

(ibid.: §364, trans. Anscombe)

'Nature' here is presumably to be glossed as 'the nature of things', 'facts' as 'facts about our make-up', and 'concepts' as 'conceptual truths'.

A similar line of thought is present in one of Wittgenstein's 1939 Cambridge lectures on the foundations of mathematics (Lecture XXV). Here we encounter the claim that 'the reality corresponding' to the sentence 'There is no reddish green' is 'of an *entirely* different sort' from the reality corresponding to the sentence 'In this room there is nothing yellowish green'. The reality corresponding to 'There is no reddish green' has to do, not with the layout of the world, but with facts about us:

It is unnatural – unnatural for us – to use 'red' and 'green' in the way we're accustomed, and then to go on to talk of 'reddish-green'.

(Wittgenstein 1976: 243)

This fits with a line of thought we find throughout the later Wittgenstein's reflections on the nature of logic and mathematics, according to which logical and mathematical 'grammar' cannot be justified by pointing to a logical or mathematical reality: any 'reality' corresponding to these 'grammars' lies in our nature, rather than in the nature of things.⁹

But if grammar is *non-arbitrary* in the sense that it is psychologically unavoidable for us, in what way will it be true to say that it is also *arbitrary* in the sense that we could frame the rules of grammar differently? Will different games, incorporating the sentence 'I'm dividing red up', for example, be devisable *by us*? There is clearly pressure here on Wittgenstein, if he is coherently to retain the desired combination of arbitrariness and non-arbitrariness in his characterization of grammar, to weaken the suggestion that *we* could frame the rules of grammar differently, or at least to weaken any suggestion that we could do this *as we are currently constituted*. The most that Wittgenstein can afford to allow, consistently with his

observation that rules of grammar may be psychologically inevitable for us (so that to that extent we could not, as we are currently constituted, frame them differently), is that we can in principle conceive of their being differently framed, whether by others or by us at some later stage in our development, at a stage when we are differently constituted. In other words there is pressure on Wittgenstein to weaken the content of the second part of the arbitrariness claim ('we could frame the rules of grammar differently') to a claim that we could in principle if not in (current) practice do so. When we look at the late text *On Certainty*, we find a number of passages where something like this weakened position is sketched out: here we are told that certain 'hinge propositions' (extended now to include many familiar empirical truths) are, for all practical purposes, exempt from any current possibility of revision; but it is implied that they are not exempt *tout court* from any possibility of revision in principle.¹⁰

Now if the phenomenon of colour exclusivity (i.e. that colours mutually exclude one another) is, in the weakened sense, arbitrary, we should be able to make sense, at least in principle, of alternatives to the system we operate with. In his treatment of the problem of colour exclusivity in his Logik. Sprache und Philosophie (1976: 99–112), 11 Friedrich Waismann claims that there are indeed many ways in which we can imagine an alternative convention permitting something to be both red and green. He suggests that one such convention might arise if an object appeared red when observed in the left-hand part of my visual field, and green in the right-hand part. The suggestion is surely implausible, 12 and indeed, as Waismann concedes, it is unlikely that any such strategy will satisfy us: we will say, if we are at all philosophically sophisticated, that, given the meanings that 'red' and 'green' already have as a consequence of ostensive definitions, it simply follows (not as a matter of logic in the narrow sense, but as a matter of metaphysical necessity) that no object can be simultaneously red and green all over.

Waismann's reply is that the supposition that the meanings of 'red' and 'green' can be so fixed in advance by mere ostensive definition is illegitimate. Ostensive definition of 'red' and 'green' would, he agrees, *partially* fix the meanings of those words, but different extensions of these beginnings would be available, so that someone from one culture might declare that a given object satisfied the description 'red and green all over', while someone from another culture (e.g. our own) might deny this. If the meaning of a word is its use, it follows that the meanings of the words 'red' and 'green' would not be constant across these cultures. There would admittedly be a certain degree of semantic overlap, given that, as we have hypothesized, these cultures agree in their ostensive definitions of the relevant words. But the suggestion is that agreement in ostensive definitions falls well short of determining the full use of these words.

Indeed the appeal to another culture is otiose. According to Waismann, we could ourselves decide to cancel the grammatical rule that no object

can be simultaneously red (that colour: here I point at something we call 'red') and green (that colour: here I point at something we call 'green') all over. In doing so we would of course be changing the meanings of the words 'red' and 'green', since we would be altering the conventions governing the use of those words. But (so Waismann) we would not be running counter to the nature of things, since the ostensive definitions of 'red' and 'green' – the point at which the connection between language and world is set up – underdetermine the conventions governing the use of those words: whether an object can simultaneously be that colour (here I point at something we call 'green') is left open by the nature of things.

Waismann's position as stated in the previous two paragraphs is open to a serious objection. We have been invited to agree that ostensive definitions of 'red' and 'green' underdetermine the use of those words, and that a separate convention is required to settle whether red and green exclude one another or not. But that cannot be right, and it cannot be the intended position of the middle and later Wittgenstein, for the items on the world end of these ostensive definitions are – and must be understood by the recipient of the definition to be - colours. But if what the ostensive definitions pick out are constitutively colours, it cannot still be an open question whether the relevant exclusions obtain or not; for, as we have noted, Wittgenstein's post-Tractarian position is that in setting up a system of colours - however we label them - we thereby commit ourselves, by convention, to the principle that an object can admit of only one determination, at any given time and in any given part, of the determinable colour. Now if that is the right way to express Wittgenstein's revised position, Waismann must be wrong in his claim (1976: 106) that an ostensive definition of 'red' offers merely a partial fix on the meaning of the word 'red'. Rather, we must say that the ostensive definition of 'red' entirely fixes the meaning of that word for us. For that definition, if successful, can pick out nothing short of (for example) a colour, and in so doing imports the entire convention governing the system of colours which we have agreed upon. As Lee reports Wittgenstein saying: 'The proposition "This is red" presupposes the colour-space'. ¹³ To suppose that the ostensive definition homes in on something which, in itself, falls short of being a fully paidup member of the colour system is to suppose, absurdly, that we can point at a stretch of reality which is, in itself, not conceptually structured, and conceptualize it.¹⁴ But the Wittgensteinian position is surely not that our conventions governing colour terms are imposed on some kind of protocolour-reality which is *in itself* not systematically structured – and so might be conceived to leave open some conceptual room for manoeuvre – but that, in adopting relevant conventions, we *constitute* the nature of things to the extent that our conventions place constraints on what we are and are not prepared to acknowledge as genuine possibilities within our language. This is a point Wittgenstein frequently makes by insisting that the sample

to which we appeal in setting up an ostensive definition is part of the language (i.e. our language).¹⁵

Justifying grammar

Wittgenstein faces two general and interconnected difficulties here. The first difficulty is this. If our adoption of systems of mutually exclusive determinations is, in any sense, a matter of convention, it ought to make sense to ask why we have chosen, or why we find it natural, to set up such systems at all. Why do we have what Wittgenstein famously called a 'deep need for the convention' (1989: I, §74)? For Wittgenstein this question – if intended as a specifically philosophical question seeking a philosophical answer – is unanswerable. We could only satisfy the philosophical craving to which it gives expression if we could justify our grammatical practices, and that we cannot do, for

such a justification would have to be in the form of a description of the world and such a description might be otherwise, and the propositions expressing this different description would have to be false. But grammar requires them to be senseless.

(1980a: 49)16

Here we see the importance for Wittgenstein of rejecting the reconstruction, which I mooted above, of statements of categorial nonsense as necessary falsehoods. On that reconstruction, we can simply allow that the negated descriptions of the metaphysical substrate of our grammar are false: there is no call to regard them as nonsensical. In branding the project of justifying our grammar an incoherent one, Wittgenstein is in effect combining and drawing an inference from two principles, both implicit in the above passage. One of these is the negation constraint (see above, p. 201). The other is a principle to the effect that a purported justification of grammar would have to specify the conditions in reality of the *meaningfulness* of language in general. Such a justification would itself be meaningful, of course; but, Wittgenstein supposes, the negation of any such justification would have to be both meaningful and meaningless. Why?

The negation of a specification of the conditions in reality of the meaning fulness of language in general would be a specification of the conditions in reality of the meaning less ness of language in general. Such a negated specification would have to be meaningful, by the negation constraint. But it would also have to be meaningless, because if it were true it would have to be meaningless, and hence would have to be meaningless simpliciter, under the plausible principle that the meaning of a declarative sentence is at least partially given by a specification of its truth-conditions. (It cannot be a constraint on the meaning fulness of a declarative sentence that it be false.) This line of thought does not require the strong and hardly

sustainable doctrine that the meaning of a declarative sentence is *identical* with its truth-conditions, but merely the weaker and surely irresistible thesis that the meaning-specification of a declarative sentence *entails* a suitable specification of its truth-conditions: that if S means that p, it follows that S is true if and only if p. The upshot is (assuming that we wish to retain the negation constraint) that our grammar (in the sense of our grammatical practices) cannot be justified.

It would be in line with moves familiar elsewhere in the writings of the later Wittgenstein to introduce at this point an interlocutor who argues as follows. Granted, a specification of the conditions of meaningfulness of our language invites the construction of a negation of that specification which is characterized by the impossible combination of being both meaningful and meaningless, if the specification of the conditions of meaningfulness of our language is itself constructed in our language. But can one not imagine the construction, in *another* language, of a specification of the conditions of meaningfulness of our language? The move is evidently regressive, and viciously so, since it envisages no end to the process of justification, and hence no ultimate justification, of our grammar. But here one might be tempted to try to stop the threatened regress by envisaging a superlative language (a superlanguage, for short) able to state the conditions of meaningful application to the world of any language, including itself. Such a superlanguage would be governed by a supergrammar, whose distinctive characteristic would be exactly that the negation constraint failed to apply to it. A supergrammar would be a grammar which, in the most fundamental possible way, had to be true: it is not that the formation of its negation would involve a contradiction (that of the negation's being both meaningful and meaningless), but that it would have no negation. Or, putting it another way, we might say that there would not merely be no possible world, but no impossible world either, in which its negation was true.

But, we can imagine Wittgenstein replying to this phantasmal interlocutor, the notion of a declarative sentence, or set of such sentences, with *no* negation is a philosopher's myth. There could no more be a superlanguage governed by a supergrammar than there could be a supermachine, i.e. a machine which, while subject to causal laws, was nevertheless logically guaranteed to behave in a certain way, and so logically protected from malfunctioning. ¹⁷ If, now, we reaffirm the negation constraint, and so reject as absurd the notion of a superlanguage governed by a supergrammar, must we accept Wittgenstein's claim that the grammar of our language cannot be justified? If Wittgenstein is right that any purported justification of our grammar (our grammatical practices) must specify conditions of meaningfulness of language in general, it seems that his conclusion – that no such justification is possible – indeed follows. But we can avoid the conclusion by supposing that the statements constituting a justification of our grammatical practices supply us not with conditions of

the *meaningfulness* of language in general, but with an adequate reason, specifying some worldly condition, for believing the *truth* of the grammatical propositions in question. For then the negations of such descriptions will indeed not be meaningless but, compatibly with the negation constraint, merely false – no doubt *necessarily* false, but certainly not *nonsense*. ¹⁸

Making this move is in fact tantamount to rejecting Wittgenstein's extended sense of 'grammar' (see above, p. 199). For the principle that our grammatical practices cannot be justified in the sense of specifying conditions in reality of the meaningfulness of grammatical language is undoubtedly true of grammar as traditionally conceived. It is not possible to point to any feature of the world in virtue of which 'were' and not 'was' is grammatical in the sentence 'Two men were working in the field' (cf. Moore 1993: 63). And that is so for precisely the reason Wittgenstein gives: if it were possible to describe such a feature meaningfully, it would also be possible meaningfully to negate our description; but that is not possible, for if it were, it would (in effect) be possible to say meaningfully that two men was working in the field, which it is not. Remember that for Wittgenstein a justification of grammar, if it were available, would consist in a specification of the conditions in the world in virtue of which grammatical constructions were meaningful: a purported specification of the conditions under which the sentence 'Two men was working in the field' is meaningful which proceeds by telling us that the word 'was' under certain conditions – for example, in some particular dialect of English – means were is therefore insufficient. For, after all, it is no justification of the grammaticality of 'Two men were working in the field' to be told what its constituent words mean: nothing in semantics tells us that in English syntax a plural subject has to be constructed with a plural verb (in the syntax of classical Greek plural neuter subjects are constructed with singular verbs). 19 So Wittgenstein is absolutely right about traditional grammar. Hence, if we accept that it is in principle possible to justify basic so-called 'grammatical' statements like 'There is no reddish green', in the sense of supplying an adequate reason, specifying some worldly condition, for believing the truth of such statements, it will follow that these statements are not really grammatical ones after all.

Arbitrariness, the feature of grammar on which Wittgenstein so especially insists, is indeed a feature of grammar as traditionally conceived, and that is why there is no justifying the rules of grammar, in the sense of pointing to worldly conditions which are responsible for the meaning-fulness of language. For, to stress the point once again, if there were such conditions, a characterization of alternative conditions would have to be (by the negation constraint) meaningful, but also (since it would presuppose a grammar different from ours) meaningless. But arbitrariness is not, on the line I am taking here, a general feature of grammatical statements in the *extended* sense of 'grammar' introduced by Wittgenstein in his middle

period. For the extra statements captured by the extended definition concern not language, but the world, and indeed necessary arrangements of the world: hence, in the sense in which a practice or belief is justified by pointing to a worldly condition which rationalizes that practice or warrants that belief, there could indeed be, in principle, justifications for such statements, such as the 'grammatical' statement that there is no reddish green.²⁰ (Henceforth I shall scare-quote when statements falling under the extended, but not the traditional, definition of grammar are in question.)

If we take the line canvassed in the previous paragraph, the way is clear for a realist about 'grammar' in the special sense here under consideration, i.e. for a realist about necessity, including necessities grounded in considerations of categorial propriety, to attempt to offer a general justification of our 'grammatical' beliefs. I propose the following: there is simply nothing else to think. That can count as a *justification* of the relevant beliefs, rather than a mere repetition of the fact that we do find certain ways of thinking natural and other ways unnatural, if, as the realist will claim, there is no making sense of relevant alternatives. Notoriously, Wittgenstein encourages us at a number of points to try to render such alternatives intelligible to ourselves;²¹ but that constitutes the second of the two difficulties for his position which I mentioned at the beginning of this section, for his attempts at rendering these alternatives intelligible founder on a naïve approach to translation.

Translating other-thinkers

I assumed in my discussion of Waismann (pp. 203-5) that we would be able to translate relevant other-thinkers; but that assumption is in fact problematic. Wittgenstein imagines a situation in which we come across people who charge different prices for what are by our lights equivalent quantities of wood, according as these quantities occupy a greater or lesser area on the ground (1989: I, §§143–50). We take a pile of wood, which they tell us costs so much, and spread it out over a larger area. The woodsellers then apparently say: 'Now it's more wood, and costs more'. But what makes Wittgenstein so sure that we would be able to translate the woodsellers at all, let alone translate them as he does? We are here in familiar Davidsonian territory. Davidson has repeatedly and rightly insisted that in order to interpret purported language users in such a way as to make them (by our lights) wrong, we must presuppose a considerable background of correctness in their beliefs: otherwise we should simply be unable to get enough purchase on their language to determine the content of their supposedly wrong beliefs. The point is indeed one which Wittgenstein himself anticipated (1977: I, §242). But the Davidsonian so-called principle of charity should not be taken to be a mere matter of maximizing agreement in a quantitative sense: we might find ourselves in intelligible disagreement with our subjects on many relatively trivial matters, provided we

agreed with them on a sufficiency of fundamentals; disagreement on a few fundamentals, however, would destroy our ability to get enough grip on their language to isolate the areas of agreement and disagreement. Disagreement on fundamentals, that is, would quickly dismantle itself: we would be left with sheer incomprehension.²²

Presumably there is no non-circular way of specifying what counts as fundamental or trivial for purposes of interpretation. But that does not damage the basic point that some such hierarchy does apply to our beliefs. And it is natural, in seeking examples of relatively fundamental beliefs, to turn to the analytic and to the synthetic a priori for assistance. Let us then return to the case of red and green, and ask whether the following is a conceivable scenario. We interpret purported language users as saving of a surface that it is simultaneously both red and green all over. We might say to them: 'What you mean is, not that the surface is both red and green in the sense in which it is (say) red and circular, but in the sense in which it is (say) olive green, where olive green looks to you, as it does not to us, as though both red and green elements are genetically present'. 23 In other words, we might press them to acknowledge that red and green are not independent of one another in the sense in which red and circularity are independent of one another, but are mutually exclusive determinates in the same range of determinables. Suppose they deny this, and claim (apparently) that there is no relevant difference between the red/circular case and the red/green case. Do we any longer understand them? If we press them further, and they do not give way, will there come a point where we have to translate them as ascribing two (by our lights) mutually incompatible physical quantities to the same stretch of reality, as if they were to say that there were exactly four people in the room, and also exactly five? At some point in this process – and surely at a point well before this envisaged terminus – the limit of comprehension will have been passed.

It might be objected that the argument has appealed to a problematic conception of the truth-conditions of subjunctive conditionals. I have suggested that if certain differences from what we find natural were to be pushed far enough, a point would come where we failed to translate the relevant subjects. But if one is a realist about subjunctive conditionals – that is, if one supposes that their truth-conditions may be verificationtranscendent – then perhaps there is no saying, from our present point of view, how we would react in the envisaged situation. Perhaps we would in fact find a way of translating our subjects – though not a way we can at present conceive – such that from the achieved perspective we would judge that the other-linguists were indeed saving of a surface that it could simultaneously be red and green all over, where their concepts of red and green, though clearly not identical with ours (since they would tolerate a 'grammatical' possibility of combination which we exclude), would nevertheless have sufficient overlap with ours to make the translation not completely misleading.

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The hypothesis requires the supposition that our present conceptions of red and green would be accessible from the developed perspective – that we would be able to translate our earlier selves – and in view of the fact that it has been conceded that we cannot as things stand conceive of the later perspective, this seems a difficult supposition to sustain. If from one perspective 'exactly four' and 'exactly five' are mutually incompatible, and from another they are not (and, as I have hinted, a purported dispute about colour exclusivity would presumably reduce to such a numerical dispute), it is hard to see how the one perspective could embrace the other. If the perspectives are synchronically mutually incomprehensible, surely they will be diachronically mutually incomprehensible too. That then just circumvents the question of the correct semantics of subjunctive conditionals. It may be the case, as the realist avers, that what we would do in the envisaged hypothetical circumstances is not something that we can necessarily settle with certainty now. What we can say now, however, is that whatever we would do in those circumstances, we would not be translating our purported other-thinkers as simultaneously determining a given determinable in two different ways. We would not so translate them because we *could* not do so.

This point rests on a fundamental feature of the assessment of subjunctive conditionals. Such conditionals are not assessed for truth or falsity in vacuo: they presuppose a background of relatively normal conditions. Just how normal the presupposed conditions are taken to be will depend, case by case, on the context and in particular on the supposition we are required to entertain by the antecedent of the relevant conditional. But, though we are not in a position to say anything more informative than this while remaining at the level of generality, we can at least say that features of reality which we take to be necessary features - or, to put it in Wittgensteinian terms, which we take to be conventional features of our 'grammar' – are likely to be the last considerations we are prepared to waive in assessing subjunctive conditionals, and certainly not ones we will lightly waive if the antecedent of the relevant conditional does not expressly stipulate that we do so. In the present case we are not evidently called upon to set such considerations aside. For all that we are really given is that our subjects apparently come out with a form of words, about the meaning of which - if any - we just so far know strictly nothing. The question is then whether, under any envisageable circumstances, we would be prepared to translate them as saying of a surface that it is simultaneously red and green all over (ultimately: that the light reflected from the surface is of two distinct wavelengths). The onus is surely on someone who thinks that such circumstances can be envisaged to make them intelligible to us; otherwise the natural thing to say will be that the impossibility of making sense of that claim is the fixed background against which our interpretative activity would operate, not something which is itself up for revision in the light of the speech behaviour of our subjects.²⁴

'Grammar' and conventionalism

At the end of the last section but one the position was this; the Wittgensteinian claim that our 'grammar', in the special sense under consideration, cannot be justified was undermined by the thought that it might be possible to offer a general justification for our belief in the truth of fundamental necessities along the lines of 'There is simply nothing else to think'. I then argued in the previous section that Wittgenstein's attempts in a number of passages to render alternatives to our 'grammatical' practices intelligible founder on a naïve assumption that we would be able to translate the language, and hence make sense of the behaviour, of purported other-speakers and -thinkers. But there are places where Wittgenstein shows an awareness of this point. Perhaps the best known of these is his claim that 'If a lion could talk, we could not understand him' (1977: II, 358). Presumably the thought here is that we share too little of the lion's 'form of life' to have any route into his language. 25 But if Wittgenstein here repudiates a strategy which, as we have seen, he elsewhere applies – namely, of offering translations of purported other-thinkers which involve breaches of (our) 'grammatical' propriety - he nevertheless thinks it coherent to imagine a scenario in which a lion (uninterpretably) talks. But it is hard to see how there could be evidence that someone or something talks, if there were no means of grasping what that person or thing was saying. There might of course be practical difficulties preventing our establishing an interpretation of something we could nevertheless recognize to be a language: the evidence might be too slight, for example (I gather that this is the case with Linear A). But anything certifiable as a stretch of language must in principle admit of interpretation: if a lion really could talk then we certainly could, at least in principle (i.e. if we could assemble enough evidence), understand him.

The same objection applies to a number of passages in which Wittgenstein imagines apparently deviant methods of reasoning or calculating, and allows that we would not call such methods 'reasoning' or 'calculating'. ²⁶ Sometimes he seems to be on the verge of recognizing the point I am urging, namely that in such cases we cannot even in principle permit anything ratiocinative to be going on at all.²⁷ But Wittgenstein never quite abandons the conventionalist perspective which informs these discussions: he never quite overcomes the tendency to suppose that purported alternative methods of reasoning or calculating might indeed genuinely be alternative ways at least of thinking (to put it neutrally), though unrecognizably so by us and hence not called reasoning or calculating by us. Instead of saying that changing our fundamental 'grammar' would destroy the ratiocinative game, Wittgenstein is inclined to say merely that it would change the game.²⁸ He repeatedly advises us, in contemplating our fundamental 'grammar', to replace the language of 'must be' with that of 'is', and that of 'is' in turn with the language of 'is called':29 we are thus invited to shift our allegiance from realism to conventionalism or idealism.³⁰

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A typical passage is this from *Bemerkungen über die Grundlagen der Mathematik*:

The steps which one does not call in question are logical inferences. But the reason why one does not call them in question is *not* that they 'certainly correspond to the truth' or something similar, but rather, this is exactly what one calls 'thinking', 'talking', 'inferring' and 'arguing'.

(1989: I, §156)

Wittgenstein supposes that there is a difference, in the case of our logical 'grammar', between saying that it 'corresponds to the truth' and saying instead that it marks out what we call 'thinking' etc. But what is the difference? If we concede to the idealist that the truth is, in this case, constituted by what we call 'thinking', we must equally admit the realist's claim that what we are prepared to call 'thinking' is in part constituted by our acceptance of the sorts of truth which would feature in an inventory of our logical 'grammar'. That was a consequence of our reflections in the previous section – for there can be no question of driving a wedge between what can be thought and what can be expressed (and hence translated). But if there are no conceivable alternatives to our fundamental perspective on the world – if, here, there is simply nothing else to think – an idealism about this perspective is forced to go transcendental, and consequently 'strictly carried out coincides with pure realism' (cf. 1922: 5.64). We are led back to the point from which we started: there is no relevant contrast between 'must be' and 'is called' if the latter, when unpacked, is tantamount to 'is only intelligibly called'.31

The stigma of a crude conventionalism is not to be avoided by assimilating statements of 'grammatical' rules to commands, a move which Wittgenstein sometimes urges, at least in the case of statements of mathematics.³² The point of the assimilation, as far as the present issue is concerned, is to exploit the fact that, as Wittgenstein puts it, 'a command has an inner and an outer negation' (1989: V, §13). This fact is picked up in Bemerkungen über die Grundlagen der Mathematik VI, §§30 and 49, where it is argued that a statement of mathematics, such as $^{\circ}25^2 = 625^{\circ}$, cannot have the meaning 'human beings agree that $25^2 = 625$ ', since the analysandum and the purported analysans have different negations. The negation of ' $25^2 = 625$ ' is ' $25^2 \neq 625$ ', whereas the negation of 'human beings agree that $25^2 = 625$ ' is the statement that they do not agree that $25^2 = 625$, not that they agree something else, e.g. that $25^2 \neq 625$. If one thinks of the mathematical statement ' $25^2 = 625$ ' as a command ('Let 25^2 equal 625'), its 'mathematical' negation would be the corresponding command's inner negation ('Let 25² not equal 625'), while its 'anthropological' negation would be the corresponding command's outer negation (something like: 'No stipulation as to the value of 25² is being made').

This is enough to show that, if we accept the assimilation of 'grammatical' rules to commands, expressions of such rules do not mean the same as statements asserting the existence of suitable conventions. But it is not enough to enable Wittgenstein to rebut the charge of conventionalism, at least not as long as that conventionalism remains a substantial one, i.e. one not rendered coincident with realism by being transcendentalized. For as long as alternative conventions (alternative commands) are allowed to be conceivable, the charge of (empirical) conventionalism will stick.

The sheer assimilation of 'grammatical' statements to commands is not incompatible with realism, and can indeed be accepted as a way of making the realist's point. For the realist's claim about 'grammatical' statements is that they are *necessarily true*, and that the negations of these statements are necessarily false, not merely that they are not necessarily true. In other words, the realist's claim is in effect that the negation of a 'grammatical' statement is the inner, not the outer, negation of the corresponding modalized version of it. For the realist, the insistence that the negation of a 'grammatical' statement is the inner negation of the corresponding command can simply be taken as a way of making his point, with an imperatival force indicator substituted for the necessity operator which he takes implicitly to govern such statements. At least, that is so if the assimilation of 'grammatical' statements to commands is made subject to the proviso that alternative 'grammatical' commands are not admitted as a possibility. As long as that proviso is in place, the necessary truth of such statements is not subverted by the availability of the assimilation. The mere shift of perspective from a statement mode to a command mode is not enough, without more, to upset realism about 'grammar'.

It is of the essence of a convention that alternatives to it are conceivable. A way of thinking to which no alternative is conceivable is a way of thinking made inevitable by the nature of things. A 'grammar', in Wittgenstein's special sense, is a 'grammar' not of our language as opposed to other possible languages, but of the way any language has to be given the way the world is. That is, it is a 'grammar' of all metaphysically permissible *meanings*. There is no clash between supposing that such a 'grammar' has the world as its subject matter and supposing that it has meanings as its subject matter, for there is a necessary coincidence between what is the case, if a certain proposition is true, and what we say when we assert that proposition.³³ This necessary coincidence is indeed, as John McDowell has stressed (1994: 27f.), something Wittgenstein himself insists on, both in his early and in his late writings. (Wittgenstein often expresses the point by exploiting a general constraint on meaning which has played an important role in our discussion: that a declarative sentence is meaningful if and only if its negation is meaningful.)³⁴

It is perhaps ironic, if not entirely surprising, that an important strand in Wittgenstein's thinking about meaning – that (to echo McDowell's way of putting it) there is a necessary coincidence between the sort of thing one

can think and the sort of thing that can be the case – should come to the aid of a realism about 'grammatical' propriety, according to which the sort of thing one *has to* think is the sort of thing which *has to* be the case, which the later Wittgenstein officially at least seems to have abjured.³⁵

Notes

- 1 Translations are my own, except where otherwise indicated.
- 2 The doctrine of 'separatism' (i.e. that the truth-value of any elementary proposition is independent of the truth-value of any other) is maintained in the *Tractatus* at 2.062, 4.211, 4.27, 5.134–5 and the notorious 6.3751; it is revoked by Wittgenstein in 'Some Remarks on Logical Form' (1929) and the conversations reported in *Wittgenstein und der Wiener Kreis* (1993): see, in particular, pp. 63f., 73–81, 89–91.
- 3 Cf. Pap 1960; Prior 1976; Bradley 1978.
- 4 One might expect the singular (Kenny mistranslates the phrase as a singular, (Wittgenstein 1974: 126)), but presumably Wittgenstein is now generalizing away from the specific case of 'I'm dividing red up'.
- 5 As Moore rightly notes, 'proposition' here seems to be used to mean *Satz*, i.e. (declarative) 'sentence' (or 'statement', as I translated it above).
- 6 See here Wittgenstein 1980a: 49 and *passim*; 1973: 184, with Garver 1996: 148; Moore 1993: 70.
- 7 Wittgenstein 1980a: 57.
- 8 See the passage from the *Philosophische Grammatik* quoted above and Wittgenstein 1980a: 49 ('[Grammar] is not arbitrary in so far as it is not arbitrary what rules of grammar I *can* make use of' (my emphasis)).
- 9 See here, e.g. 1989: I, §§4–5, 8–11, 33–7, 63, 74, 156; III, §§27, 30, 39. For the connection between sentences like 'There is no reddish green' and logical/mathematical tautologies, see 1989: IV, §39 with I, §74 and III, §39.
- 10 See e.g. 1979: §578 ('But mightn't a higher authority assure me that I don't know the truth? So that I had to say "Teach me!"? But then my eyes would have to be opened'; trans. D. Paul and G. E. M. Anscombe). The final sentence recalls 1977: II, 359 ("But aren't you just shutting your eyes to doubt, if you are *certain*?" My eyes are shut').
- 11 This work was the product of an intense preoccupation with Wittgenstein's philosophy during the period 1929–39, and purports in large measure to be an exposition of Wittgenstein's views: see the editors' *Nachwort* at pp. 647–62.
- 12 If such a situation obtained, we might indeed, as Waismann suggests (1976: 106), have more use for a colour term with the meaning *red or green* than for either the term 'red' or the term 'green', but the supposition we are being asked to entertain is clearly not that objects can be simultaneously red *and* green, but that they can be alternately red *or* green.
- 13 Wittgenstein 1980a: 116; cf. 104f., and Moore 1993: 54. To obviate misunder-standing here, I should state that I do not regard the 'Rule-following' sections of the *Philosophische Untersuchungen* as intended by Wittgenstein to constitute an attack on the notion of fixed meanings *per se*; rather, these sections are aimed against a false conception namely, a causal (and in particular a mechanistic) one of what it is to follow a linguistic rule (the notion of following a linguistic rule being correlative with that of the existence of diachronically fixed meanings).
- 14 Against the coherence of such an attempted act of conceptualization see M. Williams 1977 and McDowell 1994.

- 15 1973: 40f., 88, 97; 1977: I, §50; 1980a: 101–3; Moore 1993: 56. Cf. Waismann 1976: 401–6; my 1996: §I, together with Waismann 1976: 339–45; Glock 1996a: 207. I stress here the point that the conventions we set up govern *our* space of conceptual possibilities. Whether alternative systems to our colour system, with its proprietary exclusions, are conceivable (and whether they are taken by Wittgenstein to be conceivable) will be the theme of the discussion on pp. 208–10 below.
- 16 Cf. Wittgenstein 1980a: 95; 1973: 184, 186f.; Moore 1993: 70f.
- 17 Wittgenstein 1977: I, §§191–5; 1989: I, §§118–28; cf. 1981: §296.
- 18 For Wittgenstein's unwillingness to call logical or mathematical 'grammatical' sentences true and their negations false, cf. 1977: 363f.; 1989: I, §§37, 132; III, §28 ('The mathematical sentence is supposed to show us what it makes SENSE to say' as opposed to 'what is TRUE' and note too the final paragraph of this section), and §§73 and 75.
- 19 Cf. here Moore 1993: 71f. Note that what is required in any purported specification of worldly conditions justifying our grammatical practices is a specification of conditions which obtain in the world *of reference*, i.e. in the world of objects and properties picked out, according to some appropriate semantics, by our words. A specification of worldly conditions in the sense of features of our brains in virtue of which we operate with one grammar as opposed to another would therefore be irrelevant to the project in question.
- 20 Moore (ibid.: see previous note) quotes Wittgenstein as saying that there is no 'quality in reality' in virtue of which 'sweeter' has meaning but 'more identical' has none. But there is: the worldly condition that, whereas some things are sweeter than others, nothing can be more identical to one object than to another. Compare Aristotle's assertion that no substance is more of a substance than any other: *Categories* 3b33ff.
- 21 E.g. 1977: II, xii; 1989: I, §§5, 140, 147–50; 1976: 83, 201ff.
- 22 See Davidson 1984: passim; 1990: §III.
- 23 Cf. Wittgenstein 1981: §361.
- 24 The argument of this section needs to hedged with the following proviso: what is in question, here, is *necessity*, of both analytic and synthetic a priori varieties, not simply conceivability or imaginability. The suggestion that if two perspectives are mutually synchronically incomprehensible then they will also be mutually diachronically incomprehensible should not be applied to just any kind of situation in which we cannot imagine how things might be otherwise; for then it would be open to the following natural objection. 'There are surely examples from the history of science illustrating exactly the possibility which is here held to be unintelligible. Before the discovery of non-Euclidean geometries, for instance, it was generally believed that space had to be Euclidean; scientists could not conceive of an alternative. But we have now come to believe space to be non-Euclidean, and have no trouble translating the claims of these earlier scientists about the structure of space – claims we now take to be false. Does not such an example show that even in cases where we cannot *currently* make sense of a hypothesized future development in which a given "grammatical" rule is rejected, it would be wrong to infer that there is simply nothing else to think? In other words, it surely does not follow that if two perspectives are synchronically mutually incomprehensible, they must also be diachronically mutually incomprehensible.' Thus the objection. But against it: the claim that space is Euclidean is an empirical hypothesis, and the establishment of its truth or otherwise does not constitute the establishment or revision of a 'grammatical' rule in the sense of that phrase which is here in question, that is, of an analytic or a synthetic a priori truth. A shift from taking the geometry of space to be Euclidean

- to taking it to be non-Euclidean leaves the status of both the analytic and the synthetic a priori untouched: for example, it leaves untouched the question what exactly follows from Euclid's axioms.
- 25 Cf. 1966: 2f.; 1980b: §568; 1981: §§383–90; 1989: VII, §§47, 59; with Glock 1996b: 166.
- 26 1976: 201, 214; 1977: II, 363f.; 1989: I, §§131–3, 156.
- 27 1989: I, §§51, 61, 116.
- 28 See e.g. 1980a: 86f.; 1981: §320.
- 29 1969: 56; 1989: I, §§12, 116, 127–8, 156; III, §30; IV, §29. Cf. Dummett 1993: 452.
- 30 On the appositeness of the label 'conventionalism', see Dummett 1993: 448f.
- 31 See here B. Williams 1981; Lear 1982 and 1984; Garver 1994; my 1990. The general shape of this movement of thought was embraced by the early Wittgenstein, as the quotation from the *Tractatus* shows, but apparently unsatisfied the later.
- 32 1989: V, §§13–17; VII, §39. Cf. IV, §15–16.
- 33 On this topic see further my Introduction to this volume.
- 34 1922: 2.06, 4.062–4.0621; 1973: 135; 1977: I, §§95, 443, 447, and most eloquently perhaps at §429, where we are told that 'The agreement harmony of thought and reality resides in the fact that if I say falsely that something is *red*, it is indeed, even so, not *red*'.
- 35 I am most grateful to Stewart Candlish, Gary Ebbs, James Levine, Ian Proops, and the participants of Sussex University Philosophy Society for their helpful comments on an earlier version of this paper.

References

- Bradley, M. (1978) 'On the Alleged Need for Nonsense', *Australasian Journal of Philosophy* 56: 203–18.
- Dummett, M. (1993) The Seas of Language, Oxford: Clarendon Press.
- Garver, N. (1994) 'Naturalism and Transcendentality', in S. Teghrarian (ed.) *Wittgenstein and Contemporary Philosophy*, Bristol: Thoemmes Press: 41–69.
- ——— (1996) 'Philosophy as Grammar', in H. Sluga and D. Stern (eds) *The Cambridge Companion to Wittgenstein*, Cambridge: Cambridge University Press: 139–70.
- Gaskin, R. (1990) 'Platonism and Forms of Life', Auslegung 16: 1-16.
- ——— (1996) "Kein etwas, aber auch nicht ein Nichts!": kann die Grammatik tatsächlich täuschen?", *Grazer Philosophische Studien* 51: 85–104.
- Glock, H.-J. (1996a) 'Necessity and Normativity', in H. Sluga and D. Stern (eds) *The Cambridge Companion to Wittgenstein*, Cambridge: Cambridge University Press: 198–225.
- ——— (1996b) 'On Safari with Wittgenstein, Quine and Davidson', in R. Arrington and H.-J. Glock (eds) *Wittgenstein and Ouine*, London: Routledge: 144–72.
- Lear, J. (1982) 'Leaving the World Alone', Journal of Philosophy 79: 382-403.
- ——— (1984) 'The Disappearing "We", *Proceedings of the Aristotelian Society* suppl. vol. 58: 219–42.
- McDowell, J. (1994) Mind and World, Cambridge, Mass.: Harvard University Press.

- Moore, G. E. (1993) 'Wittgenstein's Lectures in 1930–33', in J. C. Klagge and A. Nordmann (eds) *Ludwig Wittgenstein: Philosophical Occasions 1912–1951*, Indianapolis: Hackett: 45–114.
- Pap, A. (1960) 'Types and Meaninglessness', Mind 69: 41-54.
- Prior, A. (1976) 'Entities', in his *Papers in Logic and Ethics*, London: Duckworth: 25–32.
- Waismann, F. (1976) Logik, Sprache und Philosophie, ed. G. P. Baker and B. McGuinness, Stuttgart: Reclam.
- Williams, B. (1981) 'Wittgenstein and Idealism', in his *Moral Luck*, Cambridge: Cambridge University Press: 144–63.
- Williams, M. (1977) Groundless Belief, Oxford: Blackwell.
- Wittgenstein, L. (1922) *Tractatus Logico-Philosophicus*, London: Routledge & Kegan Paul.
- ——— (1929) 'Some Remarks on Logical Form', *Proceedings of the Aristotelian Society* suppl. vol. 9: 162–71.
- (1966) Lectures and Conversations on Aesthetics, Psychology and Religious Belief, ed. C. Barrett, Oxford: Blackwell.
- (1969) The Blue and Brown Books, Oxford: Blackwell.
- ——— (1973) Philosophische Grammatik, ed. R. Rhees, Frankfurt/Main: Suhrkamp.
- (1974) *Philosophical Grammar*, ed. R. Rhees, trans. A. Kenny, Oxford: Blackwell.
- (1976) Wittgenstein's Lectures on the Foundations of Mathematics, Cambridge 1939, ed. C. Diamond, Chicago: University of Chicago Press.
- —— (1977) *Philosophische Untersuchungen*, ed. G. E. M. Anscombe, G. H. von Wright and R. Rhees, Frankfurt/Main: Suhrkamp.
- (1979) On Certainty, ed. G. E. M. Anscombe and G. H. von Wright, Oxford: Blackwell.
- (1980a) Wittgenstein's Lectures, Cambridge 1930–1932, ed. D. Lee, Oxford: Blackwell.
- (1980b) Bemerkungen über die Philosophie der Psychologie/Remarks on the Philosophy of Psychology vol. II, ed. G. H. von Wright and H. Nyman, Oxford: Blackwell.
- (1981) Zettel, ed. G. E. M. Anscombe and G. H. von Wright, Oxford: Blackwell.
- (1989) Bemerkungen über die Grundlagen der Mathematik, 3rd edn, ed. G. E. M. Anscombe, G. H. von Wright and R. Rhees, Frankfurt/Main: Suhrkamp.
- ——— (1993) *Wittgenstein und der Wiener Kreis*, 4th edn, ed. B. McGuinness, Frankfurt/Main: Suhrkamp.

9 Carnap's logical syntax

Gary Ebbs

Carnap's motivating attitude

Carnap's logical syntax is a systematic expression of his attitude towards different types of discourse.¹ He avoids the vocabulary and methods of traditional metaphysics, and endorses the vocabulary and methods of science.² His *motivating attitude* is that it is 'sterile and useless' to say that two investigators agree or disagree unless we see them as sharing criteria for evaluating their assertions.³

This attitude led Carnap to seek a method for specifying intersubjective criteria for evaluating logical and mathematical statements. He rejected Wittgenstein's view that all attempts to specify the meanings of logical statements and terms end in nonsense (Carnap 1937: 282–4; 1996: 37f.). At the same time, he was inspired by (what he regarded as) Wittgenstein's idea that logical truths are 'based solely on their logical structure and on the meaning of the terms' (Carnap 1963a: 25). Carnap found a way to articulate this idea in January 1931, six months after he learned of Kurt Gödel's incompleteness theorems and the ingenious method of arithmetization that Gödel devised to prove them (Carnap 1963a: 53).

In *The Logical Syntax of Language* (Carnap 1937), Carnap's first detailed presentation of his new vision of logical syntax, he shows how to construct syntactic definitions of 'logical consequence' for artificial languages. He proposes that we *replace* the vague sentence 'the truth of logical statements is based solely on their logical structure and on the meaning of the terms' with a syntactical definition: a sentence s of a (non-contradictory) language L is logically true (analytic) if and only if s is a (special sort of) syntactical consequence in L of the empty set of sentences of L. Using Gödel's method of arithmetization, Carnap shows how his proposed syntactical definition can be formulated without using any vague vocabulary.

My central goal in this paper is to explain in more detail how Carnap proposes to avoid vague discourse by endorsing only the vocabulary and methods of science. I will explain how Carnap could plausibly see himself as the practitioner of a new *scientific* discipline – *Wissenschaftslogik*, or the logic of science. In 1934 he boldly announced that

our own discipline, logic or the logic of science, is in the process of cutting itself loose from philosophy and becoming a properly scientific field, where all work is done according to strict scientific methods and not by means of 'higher' or 'deeper' insights.

(Carnap 1987: 46)

If there is anything resembling philosophy in Carnap's new discipline, it is his motivating attitude, which underlies his rejection of discourse that he finds unclear. The only way to challenge, not simply reject, Carnap's motivating attitude is to question its pragmatic appeal. In the last two sections of the paper, I will suggest that Carnap asks us to pay too high a price for the dubious benefit of ruling out of the very possibility of engaging in unresolvable disputes.

Formation and transformation rules

The primary task of the logic of science is to construct and describe *language systems*. Each language system S is characterized by its *formation rules*, which specify the sentences of S, and its *transformation rules*, which together settle, for every sentence s of S and every set R of sentences of S, whether or not s is a *consequence* of R in S.

It is standard practice to specify the syntactical rules of a given language system in terms of its basic symbols. For instance, given a complete set of formation rules for a language system S that contains the symbol ' \rightarrow ', we may stipulate that *modus ponens* is among the transformation rules of S:

If s and r (hence also $s \to r$) are sentences of S, then r is a consequence of $\{s, s \to r\}$ in S.

The transformation rules for S may also include a list of primitive sentences, or axioms, such as $s \to (\neg s \to r)^l$, for all sentences s and r in S. To put a sentence s of S on the list of primitive sentences of S is to stipulate that s is a consequence in S of the empty set of sentences of S. Taken together, the transformation rules for S settle what Carnap calls the *consequence* relation for S.

Transformation rules for a language system S may include axioms of arithmetic or set theory; so the consequence relation for S, as Carnap defines it, may be considerably stronger than the consequence relation for a typical first-order quantificational language, for instance. Moreover, Carnap's consequence relation for a system S cannot in general be the same as the *derivability* relation for S, which is settled by *finite* transformation rules ('primitive sentences and rules of inference each of which refers to a finite number of premises', (Carnap 1939: 165)). Gödel's first incompleteness theorem shows that no set of *finite* transformation rules can capture our pre-theoretical notion of logical consequence for language systems that

contain arithmetic. Carnap knew this, and proposed that we allow *transfinite* rules of transformation, which are defined for an infinite number of premises (Carnap 1937: §§14, 34, 43–5). According to the transfinite rule DC2 of Carnap's Language I, for instance, a sentence *s* of Language I that contains some free variable *v* is a logical consequence of the infinite class of sentences of Language I which is obtained by substituting names of positive integers for *v* in *s* (Carnap 1937: 38; Sarkar 1992: 197). Carnap calls such transfinite rules *syntactical* because they can be specified formally, even though the question whether they are correctly applied in a given case is not decidable (Carnap 1937: 100).

The formation and transformation rules for a language system can be specified by Gödel's method of arithmetization. The method exploits the fact that each number has a unique factorization into primes. If each symbol in the language is assigned a distinct number, the sentences of the language can be put into correspondence with numbers in such a way that the sentence represented by a given number can be recovered by factoring that number into primes. The formation rules for a language system can be specified by an arithmetical definition of the set of all and only those numbers which correspond in this way with sentences of the system. Similarly, the transformation rules for the system can be specified by an arithmetical definition of the set of all and only those numbers which correspond with series of numbers which correspond with derivations of sentences in the system. In this way the formation and transformation rules of the system can be specified in purely arithmetical terms (Carnap 1937: 57).

By arithmetizing the formation and transformation rules for language systems, Carnap satisfies his requirement that his proposed syntactical specifications of the logic of science be expressed in exact scientific terms. For instance, suppose we want to assert that a particular sentence s is not provable in language system S. Roughly speaking, 's is not provable in S' amounts to 'No proof of s is possible in S'. To allay any doubts about the clarity of this notion of possibility, we can arithmetize the syntactical rules of S, and replace 'No proof of s is possible in S' with a sentence of the form 'There exists no number that corresponds with a proof of s in S' (Carnap 1937: 57f.).

Some central terms of logical syntax

Starting with definitions of transformation rules, which settle the *consequence* relation for a language system S, Carnap constructs a series of definitions which he proposes that we use in place of our intuitive ideas about the logical grounds for affirming our sentences. Like formation and transformation rules, the new definitions may be arithmetized, and therefore have none of the vague intuitive significance of the phrases they replace. The series begins as follows:⁵

Sentence s of language system S is *valid* if and only if s is a consequence in S of the empty set of sentences of S; and *contravalid* if and only if every sentence of S is a consequence of s in S.

For any sentence s of a non-contradictory language system S, Carnap proposes that we use 's is valid in S' in place of 's is true in virtue of the rules of S', and 's is contravalid in S' in place of 's is false in virtue of the rules of S'. Then we can replace 's is true or false in virtue of the rules of S' with 's is determinate', defined as follows:

Sentence s of language system S is *determinate* if and only if either s is *valid* or s is *contravalid*.

It follows from this definition that s is not determinate (indeterminate) if and only if s is neither valid nor contravalid.

The next few definitions depend on Carnap's distinction between two types of transformation rules: L-rules and P-rules. All language systems contain L-rules; some language systems, but not all, contain P-rules. The L-rules of a language system S settle which sentences are logically true or false in S. Together with the L-rules of S, the P-rules of S settle which sentences are determinate but neither logically true nor logically false. Any non-logical sentence can be defined as a primitive P-rule. Carnap proposes that we include sentences that express laws of nature among the P-rules of language systems we use for physics, so that the sentences are *valid* – 'true in virtue of the rules' – and hence *determinate* in those systems (Carnap 1996: 51).

Assume that the distinction between the L-rules and P-rules of each language system S is drawn *within* S by the definitions of the L-rules and P-rules of S.⁷ Given this distinction, Carnap constructs the following series of definitions:

A sentence r is an L-consequence of a sentence q in a system S if and only if the L-rules of S together settle that r is a consequence of q.

Sentence s of language system S is analytic if and only if s is an L-consequence in S of the empty set of sentences of S; and contradictory if and only if every sentence of S is an L-consequence of s in S.

Sentence s of language system S is L-determinate if and only if either s is analytic or s is contradictory; and synthetic if and only if s is not L-determinate.

Carnap stresses that for each language system we can use Gödel's method to define all of these syntactical terms arithmetically.

Limits on defining the logical syntax of S within S

How much of the logical syntax of a language system S can be defined within S? Can 'analytic (in S)' be defined in S? Carnap proves that the answer to this second question is 'No'. Using techniques he learned from Gödel, Carnap sketches a syntactical version of the liar paradox to show that *if S is consistent, then 'analytic (in S)' is indefinable in S* (Theorem 60C.I, Carnap 1937: 219). His proof depends on two assumptions: (1) for every arithmetical sentence *s* of a *non-contradictory*⁸ language system S, '*s* is true (false) in S' can be translated as '*s* is analytic (contradictory) in S' (and vice versa), and (2) 'it is possible to construct, for any and every syntactical property formulable in S, a sentence of S . . . that . . . attributes this property – rightly or wrongly – to itself' (Carnap 1937: 217). Assumption (2) is Carnap's fixed-point theorem; he proved it by generalizing from Gödel's method of constructing an arithmetical sentence *s* of a system S which is true if and only if *s* is not provable in S (Carnap 1937: 129–31; Sarkar 1992: 205f.).

Here is a sketch of Carnap's proof. Assume that S is non-contradictory (consistent) and contains arithmetic. Suppose (towards contradiction) that 'analytic in S' is defined in a syntax formulated in S. Then 'not analytic in S' can also be defined in S. By assumption (2), it is therefore possible to construct an arithmetical sentence s of S such that, relative to the arithmetization, s 'says' that s is not analytic in S. If s is not analytic in S, then since s is a sentence of arithmetic, s is contradictory in S, hence by assumption (1), s is false in S. Since s 'says' that s is not analytic in S, and s is false in S, we may conclude that it is not the case that s is not analytic in S, hence that s is analytic in S. But if s is analytic in S, and s is true in S. Since s 'says' that s is not analytic in S, and s is true in S, we may conclude that s is not analytic in S. In short, s is analytic in S if and only if s is not analytic in S. This is a contradiction. Hence 's is analytic in S' cannot be defined in S.

In this respect, 's is analytic in S' contrasts with 's is provable in S'. From Gödel's first incompleteness theorem we know that there is no contradiction in the supposition that there is a language system S in which 's is provable in S' can be arithmetically defined. To see why, assume that S is non-contradictory (consistent) and contains arithmetic, and suppose that 's is provable in S' is defined in S. By assumption (2), it is then possible to construct an arithmetical sentence s of S such that, relative to the arithmetization, s 'says' that s is not provable in S. Suppose s is false in S. Then since s is a sentence of arithmetic, s is contradictory in S, by assumption (1). And since s 'says' that s is not provable in S, and s is false in S, it is not the case that s is not provable in S, hence s is provable in S. But then s is both provable in S and contradictory in S, contrary to the supposition that S is consistent. So s must be true in S. Since s 'says' that

s is not provable in S, and s is true in S, we may conclude that s is not provable in S. Hence s is true in S but not provable in S. This is not a contradiction. What it shows is that S contains at least one true arithmetical sentence that is not provable in S. 10

From reasoning of this sort (more precisely, from Gödel's proof of his first incompleteness theorem), Carnap concludes that 'Everything mathematical can be formalized, but mathematics cannot be exhausted by one system; it requires an infinite series of ever richer languages' (1937: 222). And from reasoning of the sort sketched two paragraphs above, Carnap concludes that 'If the syntax of a language S_1 is to contain the term 'analytic (in S_1)' then it must, consequently, be formulated in a language S_2 which is richer in modes of expression than S_1 ' (1937: 219). For technical reasons internal to Carnap's project of making logical syntax scientifically explicit, we must acknowledge that there are infinitely many language systems, no one of which is sufficient to express the logical syntax of *all* language systems.

Carnap's Principle of Tolerance

One might be tempted to ask, 'Which language system is correct?' Carnap rejects this question. He endorses a Principle of Tolerance, according to which

Everyone is at liberty to build up his own logic, i.e. his own form of language, as he wishes. All that is required of him is that, if he wishes to discuss it, he must state his method clearly, and give syntactical rules instead of philosophical arguments.

(Carnap 1937: 52)

Given the Principle of Tolerance, Carnap can express his *motivating attitude* – that it is 'sterile and useless' to say two investigators agree or disagree unless we see them as sharing criteria for evaluating their assertions – by recommending that we use only those languages whose transformation rules can be specified syntactically.

He sees the Principle of Tolerance itself as a characteristically *scientific* attitude, 'shared by the majority of mathematicians' (Carnap 1937: 52). This is not just wishful thinking; in actual mathematical practice one can find countless illustrations of Carnap's Principle of Tolerance. For instance, in set theory there are conflicting but equally acceptable ways of defining 'ordered pair'. And number theorists sometimes find it useful to define 'integer' in such a way that some imaginary numbers, such as the square root of negative one, are 'integers'. Commenting on a proposed definition of 'integer' for quadratic fields, the mathematician Harold Stark writes

A definition should not be condemned just because it is unnatural. One should not pass judgment on it until one sees if it leads to new results and clarifies old ones.

(1995: 265)

This passage clearly expresses the attitude that mathematical definitions are neither correct nor incorrect. The criteria for evaluating proposed definitions are pragmatic. Instead of asking 'Is this definition correct?', we should ask 'Does this definition lead to new results and clarify old ones?'.

Since the definitions of logical syntax can be formulated arithmetically, the mathematicians' tolerant attitude towards arithmetical definitions applies to the definitions of logical syntax. By means of arithmetization, the attitude of tolerance that is implicit in mathematical practice can be seen to encompass the definitions of logical syntax. 11 In this scientific spirit of tolerance, Carnap proposes that we replace the old question 'How do we know logical and mathematical truths?' with two new questions: 'Which language systems should we use?' and 'Which sentences of the language system that we have decided to use are L-valid?' The first question is prag*matic*; there is no correct or incorrect answer to it. The second question is mathematical; we address and resolve it by calculating the consequences of the arithmetical definitions of logical syntax. Carnap sometimes says that the L-valid and L-contradictory sentences of a language system 'have no factual content'. From a methodological perspective, this means that the L-valid and L-contradictory sentences are 'mere calculational devices' that are constructed so that they can be easily applied to the L-indeterminate sentences (Carnap 1953: 126). Among the L-indeterminate sentences, in contrast, are sentences that express particular 'matters of fact', in the sense that they can be confirmed or disconfirmed by empirical observations expressed by using what Carnap calls protocol sentences.

To illustrate these points, Carnap constructs two languages: Language I, which contains only decidable predicates of the natural numbers, and Language II, which includes Language I but also contains undecidable predicates of the natural numbers. Carnap shows how to construct mathematical definitions of 'L-consequence in Language I' and 'L-consequence in Language II'. Both language systems contain analytic mathematical sentences. But they also 'afford the possibility of constructing empirical sentences concerning any domain of objects' (Carnap 1937: 12). For instance, to Language II we can add some terms and predicates of physics, and extend the formation rules to construct sentences of a new language system, Language II_n. Some of the sentences of Language II_n will be indeterminate. Carnap recommends that the terms and predicates of physics which we add to Language II_p be chosen so that any two investigators who use Language II_n agree on how to evaluate its indeterminate sentences, including its protocol sentences, 'by means of which the results of observation are expressed' (1937: 317).

Carnap's anti-metaphysical attitude

We can now say more explicitly how Carnap eschews the vocabulary and methods of metaphysics. If s is a sentence of metaphysics, then not all investigators agree on how to evaluate s. Carnap proposes that we avoid the vocabulary and methods of metaphysics by using only those language systems S such that for every sentence s of S, all investigators agree on how to evaluate s.

One might think that there are 'contentful' metaphysical claims that cannot be expressed by sentences of any language system of the sort that Carnap endorses. To clarify the question of whether there are such claims, Carnap proposes the following definitions:

The *cognitive content* of sentence s in language system S is the class of the non-valid sentences that are consequences of s in S.

(Cf. Carnap 1937: 175)

A sentence s in S has (a) the *null content* if and only if its cognitive content is the empty set, and (b) the *total content* if and only if its cognitive content is the set of *all* the sentences of S.

(Cf. Carnap 1937: 176)

It follows from these definitions that every valid sentence of S has the null content, and every contravalid sentence of S has the total content. The vague idea that 's is contentful' corresponds with the syntactical claim that 's has a non-empty cognitive content which does not include all the sentences of the language system S to which s belongs' – 'the cognitive content of s is factual', for short.

To answer the question whether the cognitive content of *s* is factual, we must correlate it with a sentence in a language system which we can specify (Carnap 1937: 8).¹² By definition, any sentence with 'cognitive content' can be correlated with (and, relative to the correlation, is expressible by) a 'factual' sentence of a precisely specified language system. Given these definitions, the initially tempting thought that there are contentful metaphysical sentences which cannot be expressed by a sentence of one of Carnap's constructed language systems amounts to the *contradictory* thought that there are sentences whose cognitive content is 'factual' – sentences which by definition all investigators agree on how to evaluate – which not all investigators agree on how to evaluate.

If philosophy is *replaced* by the logic of science, as Carnap recommends, then there are no contentful 'philosophical theses'. Such theses, if we can make sense of them at all, may be paraphrased either by determinate sentences of logical syntax, such as "five" is a number word in language system S', or by explicitly formulated *proposals* as to which language systems we should use (Carnap 1937: 286, 299f.). The former can be

evaluated by the methods of logical syntax, whereas the latter – including Carnap's proposal that we use language systems containing only sentences which all investigators agree on how to evaluate – are neither true nor false, and can be evaluated by an individual only on pragmatic grounds, relative to his or her interests and goals. If one's goals are to make new discoveries, clarify old discoveries, and avoid fruitless disputes, for instance, one may decide to use only those language systems whose rules can be specified syntactically in the way that Carnap recommends.

Acceptance, consistency, and truth

Despite Carnap's anti-metaphysical rhetoric, many believe that he is committed to *conventionalism* about logical and mathematical truth, i.e. to the thesis that our *acceptance* of logical and mathematical sentences somehow *guarantees* that those sentences are true.¹³ In fact, however, Carnap himself proved that there can be no such guarantee. To see this, it helps to see first what is wrong with Kurt Gödel's criticism of Carnap's view that the truth of mathematical sentences is settled by rules of logical syntax.

Gödel's criticism is that we cannot know on *syntactical* grounds alone whether or not a given sentence expresses a truth. A key consideration is that

[A] rule about the truth of sentences can be called *syntactical* only if it is clear from its formulation, or if it somehow can be known beforehand, that it does not imply the truth or falsity of any 'factual' sentence.

(Gödel 1995: 339)

Only a *consistent* rule will satisfy this requirement, since an inconsistent rule implies *all* sentences, including 'factual' ones. But Gödel's second incompleteness theorem shows that the consistency of a system S of arithmetic cannot be proved using only rules and expressions that can be formulated within S. Hence the truth of mathematical sentences is not settled solely by the explicit rules of logical syntax.

On Warren Goldfarb's interpretation, this objection presupposes that there is a notion of 'fact' which is available independently of particular language systems:

As Gödel characterizes the positivist view, first there are empirical sentences, which are true or false by virtue of facts in the world; mathematics is then added, by means of conventional syntactical rules. Gödel's argument is that this addition has to be known not to affect the empirical sentences given at the start, and, by his theorem, to ascertain that requires more mathematics. Hence there is a *petitio*.

(Goldfarb 1996: 226)

Goldfarb replies that

In this [Carnap's] view, there is no admission of 'fact' or 'empirical world' that is given prior to linguistic frameworks The notion of empirical fact is given by way of the distinction between what follows from the rules of [a] particular language and what does not, so that different languages establish different domains of fact. In this way, Carnap's view undercuts the very formulation of Gödel's argument.

(227)

If Gödel's argument presupposes a notion of fact that is given prior to the rules of a language system, then Goldfarb's reply is decisive.

But there is a related objection to Carnap's approach which does not presuppose a notion of fact that is given prior to any language system. This related objection takes for granted, instead, that according to Carnap our acceptance of a sentence s solely on the basis of the L-rules of a language system S which we take to be consistent guarantees that s is true in S. The objection is that our acceptance of certain syntactical rules, including our acceptance of certain sentences as 'primitive truths' of a given language system, does not by itself determine that those rules or sentences are consistent. A true sentence must be consistent, but Gödel's second incompleteness theorem shows that our acceptance of syntactical rules cannot by itself guarantee their consistency.

The trouble with this objection is that Carnap did not accept the thesis it undermines. He takes for granted that a contradictory sentence is not true, 14 and he states explicitly that our acceptance of syntactical rules cannot by itself guarantee their consistency (Theorem 60C.2, Carnap 1937: 219). For instance, after proving the consistency of his Language II, Carnap notes that 'since the proof is carried out in a syntax-language which has richer resources than Language II, we are in no wise guaranteed against the appearance of contradictions in this syntax-language, and thus in our proof' (1937: 129). This means that even if we have proved that language system S is consistent, using a stronger mathematical language whose consistency we take for granted (but have not proved), there is no guarantee that if sentence s is analytic in S, then s is consistent in S, and hence no guarantee that if sentence s is analytic in S, then s is true in S. 15

Carnap's response to the possibility of inconsistency is pragmatic. Suppose we feel confident that a given language system S is both more useful to us and more likely to be contradictory than another. Even if we wish to avoid inconsistency, we may decide that S's usefulness is worth the greater risk of contradiction. ¹⁶ Gödel might reply that the transfinite rules which Carnap needs in his 'syntactical' definitions of logical consequence for language systems containing arithmetic are not truly *syntactical*, since (as Carnap concedes) we have no guarantee that we have correctly applied them in any given case. But isn't Carnap entitled to use the word

'syntactical' as he likes, provided that he has made his meaning clear? The key point is that Carnap explicitly acknowledges that our acceptance of a language system in no way guarantees that it is consistent or that any of its sentences are true. ¹⁷ Contrary to what many believe, he rejects the confused thesis that our acceptance of logical and mathematical sentences somehow guarantees that those sentences are true.

Rules

The myth that Carnap is committed to conventionalism about logical and mathematical truth goes hand in hand with misunderstandings of his conception of the rules of a language system. Michael Dummett expresses one such misunderstanding when he suggests that Wittgenstein's remarks on rule-following in *Philosophical Investigations*, if correct, would undermine the very idea of rule-governed language systems of the sort that Carnap endorses (Dummett 1993: 446–61). Given Carnap's arithmetization of logical syntax, Dummett is right about this only if Wittgenstein's remarks on rule-following conflict with Carnap's assumptions about arithmetic.

Dummett thinks that Wittgenstein espouses a radical conventionalism, according to which every new application of an arithmetical expression embodies a new 'decision' about how to apply the expression, and nothing 'determines in advance' whether any such decision is correct or incorrect. In contrast, according to Dummett, Carnap and the other logical positivists took for granted that the rules of arithmetic 'determine in advance' what counts as the correct application of arithmetical expressions (Dummett 1993: 447). As we have seen, however, Carnap is not interested in or committed to any 'theses' which cannot in principle be settled by scientific methods codified by a particular language system. By hypothesis, neither the 'thesis' that every new application of an arithmetical expression embodies a new 'decision' about how to apply the expression, nor the 'thesis' that arithmetical rules 'determine in advance' what counts as the correct application of arithmetical expressions can be evaluated by scientific methods. By Carnap's standards, then, neither 'thesis' has any cognitive content.

Carnap might be willing to say that the rules of a given language system S 'determine' that some sentence s is analytic in S. But for him this would amount to an *arithmetical* statement that does not give content to either of Dummett's 'theses' about rules. As Wittgenstein points out,

[I]t is not clear off-hand what we are to make of the question 'Is $y = x^2$ a formula which determines y for a given value of x?' One might address this question to a pupil in order to test whether he understands the use of the word 'to determine'; or it might be a mathematical problem to prove in a particular system that x has only one square.

(1968: I, §189)

As Wittgenstein observes, in some contexts the question 'Is $y = x^2$ a formula which determines y for a given value of x?' is a mathematical one. Similarly, in some contexts the question 'Do the rules of language system S determine that s is analytic in S?' is a mathematical one. In particular, when Carnap asks 'Do the rules of language system S determine that s is analytic in S?' he is asking whether, given the arithmetized syntax of S, we can prove that s is analytic in S. For Carnap, questions about what the rules of a language system S 'determine' are just mathematical questions about what we can prove from a given arithmetization of the logical syntax of S.

The arithmetical definitions of logical syntax do not settle whether we should accept or reject the indeterminate sentences of a language system. Among these indeterminate sentences are the protocol sentences. Suppose language system S contains the name 'a' and observational predicate 'is red'. If S is constructed in accordance with Carnap's recommendations, then any two investigators who have decided to use S will agree on how to evaluate the protocol sentence 'a is red'. But this does not mean that the rules for using the name 'a' and observational predicate 'is red', together with facts about the world, 'determine' in some non-mathematical way whether or not the sentence 'a is red' is true. For indeterminate sentences, such as 'a is red', Carnap does not talk of 'determination' at all. The question which sentences can be treated as protocol sentences of a language system should be addressed and decided by physicists (Carnap 1937: 317), whereas the question whether to affirm or deny a particular protocol sentence can only be addressed by investigators who have chosen to use the language system S that includes that sentence. Neither of these questions is settled by the syntactical rules of S.¹⁸

Carnap's idealization of logic

We have seen (pp. 219–26) that if philosophy is replaced by Carnap's logic of science, then there are no contentful philosophical theses, and (pp. 226–9) that the logic of science does not itself presuppose any substantive philosophical or metaphysical theses. If there is anything philosophical about Carnap's logic of science, it is his *motivating attitude* – that there is no point in saying two investigators agree or disagree unless they can be seen to share criteria for evaluating their assertions. To come to terms with Carnap's philosophy we must therefore come to terms with his motivating attitude.

One way to begin is to ask whether Carnap's motivating attitude amounts to an *idealization* of logic which is in tension with our evolving openended criteria for evaluating assertions. Consider the following passage from Wittgenstein's *Philosophical Investigations*:

In philosophy we often *compare* the use of words with games and calculi which have fixed rules, but cannot say that someone who is using language *must* be playing such a game. — But if you say that our languages only *approximate* to such calculi you are standing on the very brink of a misunderstanding. For then it may look as if what we were talking about were an *ideal* language. . . . — Whereas . . . the most that can be said is that we *construct* ideal languages. But here the word 'ideal' is liable to mislead, for it sounds as if these languages were better, more perfect, than our everyday language; and as if it took the logician to show people at last what a proper sentence looked like.

(Wittgenstein 1968: I, §81)

Wittgenstein grants that we can construct 'calculi which have fixed rules', and he is willing to call these ideal languages. I think he would see Carnap's language systems as calculi of this kind. But Wittgenstein stresses that we 'cannot say that someone who is using language must be playing such a game'. In one sense, Carnap would agree: according to his Principle of Tolerance, everyone is free to use any language he likes. In another sense, however, Carnap would disagree: according to his proposed definition of 'cognitive content', anyone whose claims are 'contentful' (as defined on p. 225) expresses those claims by using sentences which can be correlated with indeterminate ('factual') sentences of a constructed language system. Carnap is too sophisticated to insist that there is only one way to correlate sentences of a natural language with sentences of a constructed language system. But by proposing that we adopt his definition of 'cognitive content', he expresses his view that constructed language systems are more perfect - more explicit and more exact - than the historically given languages typically used by empirical scientists.

Historically given languages may contain sentences whose methodological role gradually *evolves*. For instance, without any change in language, a sentence that is at one time treated as a *definition* may later be regarded as *false*. This aspect of unreconstructed scientific practice can lead to situations in which investigators take themselves to disagree about some empirical question even though the sentences they use to express their supposed disagreement do not have the same cognitive content (as defined on p. 225). In such situations, Carnap thinks, fruitless controversies like those of traditional metaphysics can arise.

In §79 of the first part of *Philosophical Investigations*, Wittgenstein describes how we may use a name such as 'Moses' to refer to the same person throughout a long period of time even if our 'definition' of the name changes during that time, so that a sentence treated at one time as a definition of 'Moses' is subsequently regarded as false. Wittgenstein also notes (ibid.) that there is a 'fluctuation of scientific definitions: what today counts as an observed concomitant of a phenomenon will tomorrow be used to define it.' He cites changes in definitions to *remind* us that in practice we

do not always regard a change in one of our definitions as a change of subject, as Carnap's syntactical proposals would require us to do.

Hilary Putnam goes further. He claims that fluctuations in scientific definitions show that Carnap's conception of logical syntax is *wrong*. Here is a characteristic version of Putnam's criticism:

In Newtonian physics the term *momentum* was defined as 'mass times velocity'.... [But] the principle of Special Relativity would be violated if momentum were *exactly* equal to (rest) mass times velocity.... Can there be a quantity with the properties that (1) it is conserved in elastic collisions, (2) it is closer and closer to 'mass times velocity' as the speed becomes small, and (3) its direction is the direction of motion of the particle? Einstein showed that there *is* such a quantity, and he (and everyone else) concluded that the quantity *is what momentum really is*. The statement that momentum is exactly equal to mass times velocity was revised. *But this is the statement that was originally a 'definition'!*

(1988: 9f.)

This description of Einstein's revision of the 'definition' of 'momentum' conflicts with Carnap's proposals about how to clarify the logic of science.

By Carnap's standards, Einstein's sentence 'momentum is not mass times velocity' is not part of the Newtonian physicists' language system, and so Einstein's assertion of this sentence cannot, strictly speaking, be said to agree or disagree with the Newtonian physicists' assertions of their sentence 'momentum is mass times velocity'. The reason is that the Newtonian physicists treat their sentence 'momentum is mass times velocity' as a *definition*, hence as *immune* from empirical disconfirmation, whereas Einstein does not. Carnap would correlate the Newtonian physicists' sentence 'momentum is mass times velocity' with a *P-valid* (hence *determinate*) sentence of a language system. We can ask whether it is *expedient* to adopt the Newtonian language system, within which 'momentum is mass times velocity' is valid, but to reject the system is not to *disagree* with any of its valid sentences.

Putnam rejects this description of the case. He claims that 'the ideas of fixed definitions of terms and analytic truths . . . have no reality for actual scientific practice' (1988: 10). As Putnam sees it, the term 'momentum' as it occurs in the Newtonian physicists' sentence 'momentum is mass times velocity' is the same as the term 'momentum' as it occurs in Einstein's sentence 'momentum is not mass times velocity'. Hence, in Putnam's view, when Einstein utters his sentence 'momentum is not mass times velocity', what he says conflicts with what Newtonian physicists say when they assert their sentence 'momentum is mass times velocity'.

I find this description of the change in definition of 'momentum' compelling, but do not see why Putnam's appeal to 'actual scientific

practice' should convince Carnap to abandon his proposed descriptions of the logical syntax of historically given languages. Carnap stresses that to state the 'cognitive content' of a sentence, we must correlate it with a sentence of a language system which we can specify. Carnap's choice of which correlations to accept is guided by his motivating attitude, and so, as Carnap sees it, Newtonian and Einsteinian physicists cannot, strictly speaking, be said to agree or disagree about *momentum*.

To move beyond this impasse, we must avoid rhetoric about 'the reality of actual scientific practice' and try another approach. Let us try comparing the costs and benefits of Carnap's motivating attitude with the costs and benefits of endorsing practices in which investigators regard some terms as unambiguous throughout changes in the methodological role of sentences in which those terms occur.

Without begging the question which rules we 'really' follow, we can observe that in practice physicists regard the term 'momentum' as it occurs in the Newtonian physicists' sentence 'momentum is mass times velocity' and the term 'momentum' as it occurs in Einstein's sentence 'momentum is not mass times velocity' as the same. This is displayed by their willingness to take the term 'momentum' as it occurs in the Newtonian physicists' sentence at face value — in their willingness to 'translate' it homophonically into the language of special relativity, despite fundamental differences between relativity theory and Newtonian physics. In other words, physicists treat 'momentum' as a transtheoretical term. Our tendency in scientific investigations to treat some terms as transtheoretical embodies what I call practical realism — our commitment in practice to the idea that we can be radically wrong.

The main benefit of accepting our practice of treating some terms as transtheoretical is that we can describe and endorse our practical realism. The main cost of accepting this practice – the cost that Carnap would stress – is that there is no guarantee that we will share criteria for recognizing our agreements and resolving our disagreements. We may agree to use a precisely specified method for evaluating a given sentence. But if we accept practical realism, we cannot guarantee that this is the only reasonable method for evaluating the claim we express by affirming the sentence. We may come to accept a different method of evaluating the sentence, without concluding that the sentence expresses a different claim or that the terms which occurred in our earlier uses of the sentence are different from the terms we now use.

In Carnap's view, this cost is too high. He emphasizes that the logical syntax of any sentence or term may be revised 'as soon as it seems expedient to do so' (Carnap 1937: 318), and so he has no difficulty acknowledging that our methods of evaluating sentences of historically given languages change constantly. But he thinks that we should *not* trust our practice of treating some terms as transtheoretical, because that practice can lead to the kinds of fruitless dispute characteristic of metaphysics.

Although there is no way to *refute* this attitude, one can *invite* those holding it to consider alternatives. I would invite Carnap to trust the openended methodology that results from accepting our practice of treating some terms as transtheoretical, despite the risk of falling into fruitless disputes. As we saw above, Carnap accepts that a plausible methodology for empirical science runs the risk of being *inconsistent*. Why is the risk of engaging in fruitless disputes, which scientists have for the most part been able to avoid without using Carnap's methods of specifying logical syntax, so much worse than the risk of inconsistency?

An internal tension

Carnap may stick to his methodological scruples despite the invitation to loosen up. There is probably no way to avoid an impasse of alternative attitudes, but it is worth trying to develop a more internal pragmatic criticism. We saw earlier that no system of mathematics can formulate its own logical syntax or prove its own consistency. E. W. Beth has used this technical point to highlight an internal tension in Carnap's approach. Beth observes that if investigators are to use Carnap's methods to specify the logical syntax of Carnap's Language II, for instance, they must take for granted that they share a metalanguage. But, since no amount of purely syntactical or inferential behaviour will guarantee that they share a metalanguage, they must trust their practical identifications of shared vocabulary and inference rules. This 'mystical' trust seems in tension with Carnap's recommendation that we construct language systems whose logical syntax is fixed and unambiguous. (See Beth 1963: §§5–6)

In his reply to Beth, Carnap acknowledges that investigators must trust that they share a metalanguage for use in specifying logical syntax:

Since the metalanguage ML serves as a means of communication between author and reader or among participants in a discussion, I always presupposed, both in syntax and in semantics, that a fixed interpretation of ML, which is shared by all participants, is given. This interpretation is usually not formulated explicitly; but since ML uses English words, it is assumed that these words are understood in their ordinary senses. The necessity of this presupposition of the common interpreted metalanguage seems to me obvious.

(Carnap 1963b: 929)

The necessity that Carnap acknowledges is *practical*: to specify the logical syntax of any language, we must take for granted that we can share some metalanguage whose logical syntax is not itself explicitly specified (though it may be specified, in a different metalanguage, at some later time).

The trouble is that to identify a metalanguage which we share with other investigators, we must trust our practical identifications of shared vocabulary and inference rules. Such identifications are of a piece with our practical sense of when we agree or disagree with other investigators, and are therefore inextricable from our practical identifications of transtheoretical terms, which Carnap finds methodologically objectionable.

To minimize the danger of falling into fruitless disputes, Carnap recommends that we decide, case by case, which identifications of shared vocabulary and inference rules we trust and which ones we do not:

It is of course not quite possible to use [an] ordinary language with a perfectly fixed interpretation, because of the inevitable vagueness and ambiguity of ordinary words. Nevertheless it is possible at least to approximate a fixed interpretation . . . by a suitable choice of less vague words and by suitable paraphrases.

(1963b: 930)

But Carnap's acknowledgement that we can at best only approximate a fixed interpretation is in tension with his proposal that we avoid vague vocabulary. In effect, he proposes that we use words for which no fixed syntactical rules have been specified to clear up confusions that *stem from* using such words. By clearing up one confusion in this way, we may be just sowing the seeds of another.

This tension is not intolerable, since Carnap does not propose that we simultaneously both use and not use some metalanguage whose logical syntax we have not specified. At worst, Carnap must accept that the work of clarifying the cognitive contents of our assertions is never finished, because it always presupposes the use of some metalanguage or other whose logical syntax we have not (yet) specified. But I think the cost of applying Carnap's method is too high. To apply it, we must make case-by-case stipulations of an arbitrary boundary between trustworthy and untrustworthy identifications of shared vocabulary; all our practical identifications of transtheoretical terms must be deemed untrustworthy, and our corresponding commitment to practical realism must be dismissed as empty and confused. Despite the greater risk that we will become mired in fruitless controversies, I propose that we embrace the open-ended methodology embodied in our practice of using transtheoretical terms.¹⁹

Notes

- 1 My interpretation of Carnap is deeply indebted to Ricketts 1982, 1994, and 1996, and Goldfarb and Ricketts 1992.
- 2 Carnap reports that 'The anti-metaphysical attitude showed itself chiefly in the choice of the language used in the discussion. We [members of the Vienna Circle] tried to avoid the terms of traditional philosophy and to use instead those of logic, mathematics, and empirical science, or of that part of the ordinary language which, though more vague, still is in principle translatable into a scientific language' (Carnap 1963a: 21). In Carnap 1987 (first published in German in

- 1934) Carnap stresses that 'There is nothing else, nothing "higher" to be said about things than what science says about them' (p. 47).
- 3 '[M]ost of the controversies in traditional metaphysics appeared to me sterile and useless. When I compared this kind of argumentation with investigations and discussions in empirical science or in the logical analysis of language, I was often struck by the vagueness of the concepts used and by the inconclusive nature of the arguments. I was depressed by disputations in which the opponents talked at cross purposes; there seemed hardly any chance of mutual understanding, let alone of agreement, because there was not even a common criterion for deciding the controversy' (Carnap 1963a: 44f.).
- 4 Carnap thought that, properly explicated, Wittgenstein's insight enables us 'to combine the basic tenet of empiricism with a satisfactory explanation of the nature of logic and mathematics' (Carnap 1963a: 47).
- 5 I follow Carnap's exposition of these definitions in Carnap 1996: Ch. II.
- 6 Carnap does not accept this replacement for sentences of contradictory language systems. See pp. 226–8 and n. 14 below.
- 7 In §51 of Carnap 1937, Carnap offers a general syntactical criterion for partitioning the transformation rules for any language system S into the set of L-rules and the set of P-rules for S. He abandoned the criterion after he embraced Tarski's method of defining truth. See Carnap 1942: §39, p. 247f. According to Michael Friedman (Friedman 1988 and 1999), Carnap *needs* a general syntactical criterion for distinguishing between the L-rules and P-rules of a language system. I do not have the space here to discuss this central issue.
- 8 This qualification is important in later discussion (pp. 226–8), where I claim that according to Carnap no sentence of a contradictory language system is true.
- 9 Carnap's sketch of this proof is slightly different; see Carnap 1937: §60c, at p. 218
- 10 For Carnap's account of the disanalogy between 's is analytic in S' and 's is provable in S' see Carnap 1937: §60c, at p. 217f.
- 11 Viewed in isolation, many definitions in logical syntax are mathematically uninteresting. Put together in the right way, however, definitions in logical syntax enable us to prove interesting new mathematical results, such as Gödel's incompleteness theorems and Carnap's fixed-point theorem. Such definitions therefore lead to new mathematical results and clarify old ones. I am grateful to Joan Weiner and Michael Friedman for helpful discussions of this point.
- 12 If the sentence in question is part of a constructed language system, the correlation we need is just the identity relation. If the sentence in question is part of an historically given language, then the correlations we need fall under the province of *descriptive syntax*, within which investigators specify language systems suitable for raising *empirical* questions about the cognitive contents of sentences of historically given languages. I discuss Carnap's account of descriptive syntax in Ebbs 1997: Ch. 4.
- 13 One influential source of this view is Quine 1963.
- 14 Carnap says that 'If the truth of the sentence in question follows from the rules of transformation of the language in question, then "true" can be translated by "valid" (or, more specifically, by "analytic" . . .) and correspondingly, "false" by "contravalid" (or "contradictory" . . .)' (Carnap 1937: 216f.). I read Carnap's 'if' here as the traditional mathematician's 'if and only if', and assume that the biconditional does not hold for analytic sentences of contradictory language systems.
- 15 Since there can be no indeterminate sentences in an inconsistent language system, Carnap is also committed to denying that if we can prove, on the assumption that language system S is consistent, that a given sentence s of S is *not* deducible

- solely from the L-rules of S, then we are guaranteed that s is indeterminate in S.
- 16 This attitude is exemplified by Carnap's willingness to use classical mathematics, even though he acknowledges that intuitionistic mathematics is much less likely to be contradictory (Carnap 1939: 193).
- 17 Note also that the syntactical rules of a *consistent* language system S do not somehow 'make' the analytic sentences of S true. Even if language system S is consistent, the most we can say is that if we *know* that a sentence s is analytic in S, then we cannot refuse to affirm s without thereby also refusing to use language system S.
- 18 Carnap explains that his proposed explications of the term 'observable', which are part of his account of protocol sentences, 'belong . . . to a biological or psychological theory of language as a kind of human behavior, and especially as a kind of reaction to observations' (1936: 454). He proposes that we understand 'observable' as follows: 'A predicate "P" of a language L is called observable for an organism (e.g. a person) N, if, for suitable arguments, e.g. "b", N is able under suitable circumstances to come to a decision with the help of few observations about a full sentence, say "P(b)", i.e. to a confirmation of either "P(b)" or "~P(b)" of such a high degree that he will either accept or reject "P(b)" (454f.). On Carnap's treatment of protocol sentences, see Richardson 1996: §3; and Richardson 1998: Ch. 9.
- 19 Thanks to Stewart Candlish, Michael Friedman, Richard Gaskin, Tim McCarthy, Sanford Shieh and Joan Weiner for helpful comments and editorial advice. I am especially indebted to Michael Friedman, who pointed out several misleading formulations and problematic interpretations of Carnap's views in a previous draft.

References

- Beth, E. W. (1963) 'Carnap's Views on the Advantages of Constructed Systems over Natural Languages in the Philosophy of Science', in Schilpp (1963): 469–502.
- Carnap, R. (1936) 'Testability and Meaning', Philosophy of Science 3, 4: 419-71.
- ——— (1937) *The Logical Syntax of Language*. Originally published in German in 1934. Translated by A. Smeaton, London: Kegan Paul, Trench, Trubner.
- ——— (1939) 'Foundations of Logic and Mathematics', in *Encyclopedia of Unified Science* 1, 3, Chicago: University of Chicago Press: 143–212.
- (1942) *Introduction to Semantics*, Cambridge, Mass.: Harvard University Press.
- ——— (1953) 'Formal and Factual Science'. Originally published in German in *Erkenntnis* 5 (1935); translated and reprinted in H. Feigl and M. Brodbeck (eds) *Readings in the Philosophy of Science*, New York: Appleton-Century-Crofts: 123–8.
- —— (1963a) 'Intellectual Autobiography', in Schilpp (1963): 3–84.
- (1963b) 'E. W. Beth on Constructed Language Systems', in Schilpp (1963): 927–33.
- (1987) 'The Task of the Logic of Science'. English translation of a paper originally published in German in 1934. In B. McGuinness (ed.) *Unified Science:* the Vienna Circle Monographs Series Originally Edited by Otto Neurath, Dordrecht: Reidel, 46–66.

- ——— (1996) *Philosophy and Logical Syntax*. Originally published in 1935. Bristol: Thoemmes Press.
- Dummett, M. (1993) 'Wittgenstein on Necessity: Some Reflections', in his *The Seas of Language*, Oxford: Clarendon Press: 446–61.
- Ebbs, G. (1997) *Rule-Following and Realism*, Cambridge, Mass.: Harvard University Press.
- Friedman, M. (1988) 'Logical Truth and Analyticity in Carnap's "Logical Syntax of Language". Originally published in W. Aspray and P. Kitcher (eds) *History and Philosophy of Modern Mathematics*, Minneapolis: University of Minnesota Press: 82–94.
- ——— (1999) 'Tolerance and Analyticity in Carnap's Philosophy of Mathematics', in his *Reconsidering Logical Positivism*, Cambridge: Cambridge University Press: 198–233.
- Giere, R. N. and Richardson, A. W. (eds) (1996) 'Origins of Logical Empiricism', in *Minnesota Studies in the Philosophy of Science*, vol. 16, Minneapolis: University of Minnesota Press.
- Gödel, K. (1995) 'Is Mathematics Syntax of Language?', in his *Collected Works*, vol. 3, ed. S. Feferman *et al.*, Oxford: Clarendon Press: 334–56.
- Goldfarb, W. (1996) 'The Philosophy of Mathematics in Early Positivism', in Giere and Richardson (1996): 213–30.
- and Ricketts, T. (1992) 'Carnap's Philosophy of Mathematics', in D. Bell and W. Vossenkuhl (eds) *Science and Subjectivity: The Vienna Circle and Twentieth Century Philosophy*, Berlin: Akademie: 61–78.
- Putnam, H. (1998) Representation and Reality, Cambridge, Mass.: MIT Press.
- Quine, W. V. (1963) 'Carnap and Logical Truth', in Schilpp (1963): 385-406.
- Richardson, A. W. (1996) 'From Epistemology to the Logic of Science', in Giere and Richardson (1996): 309–30.
- ——— (1998) *Carnap's Construction of the World*, Cambridge: Cambridge University Press.
- Ricketts, T. (1982) 'Rationality, Translation, and Epistemology Naturalized', *Journal of Philosophy* 79: 117–36.
- ——— (1994) 'Carnap's Principle of Tolerance, Empiricism, and Conventionalism', in P. Clark and B. Hale (eds) *Reading Putnam*, Oxford: Blackwell: 176–200.
- —— (1996) 'Carnap: from Logical Syntax to Semantics', in Giere and Richardson (1996): 231–50.
- Sarkar, S. (1992) "The Boundless Ocean of Unlimited Possibilities": Logic in Carnap's Logical Syntax of Language', *Synthese* 93: 191–237.
- Schilpp, P. A. (ed.) (1963) *The Philosophy of Rudolf Carnap*, La Salle, Ill.: Open Court.
- Stark, H. (1995) Introduction to Number Theory, Cambridge, Mass.: MIT Press.
- Wittgenstein, L. (1968) *Philosophical Investigations*, 3rd edn, trans. G. E. M. Anscombe, New York: Macmillan.

10 Heidegger and the grammar of being

Graham Priest

Introduction

In contemporary philosophical circles it is common to distinguish between analytic philosophy and continental philosophy. To what extent there is a real difference between these two sorts of philosophy, rather than simply a matter of linguistic style and idiom, is a substantial issue. I am inclined to think that there is not. This essay may go a little way towards showing this, but that is not the topic that I have on the agenda here.

Taking the distinction at face value, and concentrating on the analytic side, it is clear that Frege, Russell, Wittgenstein and Carnap are paradigm members of this tendency. And in the work of these philosophers logical grammar plays a central role. But logical grammar also led these philosophers into seemingly paradoxical conclusions. Think, for a moment, of Frege on the concept *horse*, or of Wittgenstein saying the unsayable in the *Tractatus*. More of this later.

Turning to the other side of the divide, Husserl, Heidegger, Sartre, and Derrida are paradigmatically in the continental camp. Logical grammar plays a much less obvious role in these philosophers. The main purpose of this essay is to show that it nevertheless plays a highly significant role in at least one of these philosophers, Martin Heidegger. Moreover, considerations concerning logical grammar drove Heidegger into exactly the same sort of paradoxical conclusions as they did the analytic philosophers. All this I will show. I should say straight away, however, that Heidegger's thought is rich and complex, and it is only a part of it that will concern us here – though it is a central, if not the most central, part. I note also that I am concerned, here, to expound Heidegger's views, not to defend them. I will, though, try to present them in as plausible a light as possible.

Though Heidegger wrote much in his life, the central point of his philosophy, around which all else turns, is what he called 'the question of *being*'. The question was announced in the introduction to *Being and Time* and pursued till his very last writings. From the very beginning, it was clear to Heidegger that grammatical considerations are important in this area. In *Being and Time*, he says, for example,

With regard to the awkwardness and 'inelegance' of expression in the following analyses, we may remark that it is one thing to report narratively about *beings* and another to grasp beings in their *being*. For the latter task not only most of the words are lacking but above all the 'grammar'. If we may allude to earlier and in their own right altogether incomparable researches on the analysis of being, then we should compare the ontological sections of Plato's *Parmenides* or the fourth chapter of the seventh book of Aristotle's *Metaphysics* with a narrative passage from Thucydides. Then we can see the stunning character of the formulations with which their philosophers challenged the Greeks.

 $(1996: 34)^3$

Moreover, these grammatical considerations played an important role in the turn in Heidegger's thought concerning being that occurred in the mid-1930s, a period sometimes referred to as the *Kehre*.⁴ We will see how in due course. Let us start with the question of being itself.

The question of being

What is the question of being? Everything that there is has being – exists, if you like, as long as you do not read any particular import into this notion, spatial, temporal, material, etc. But what *is* it to be? That is the question of being. As Heidegger puts it:

What is *asked about* in the question to be elaborated is being, that which determines beings as beings, that in terms of which beings have always been understood no matter how they are discussed.

(1996: 4f.)

The question of being was, according to Heidegger, a central issue of early Greek philosophy; but after Plato and Aristotle the question became lost, so that we now find it difficult to hear it as an important question at all. In the introduction to *Being and Time*, Heidegger points out three reasons why it might be thought to be a non-issue – that being is the most universal property, that it is therefore indefinable (by genus and species), that its meaning is self-evident – and he rejects all these as good reasons, quite rightly. In particular, as Heidegger points out, you must have some understanding of the notions involved in a question before you can even ask it, but that does not show that this understanding is an articulated one:

As a seeking, questioning needs prior guidance from what it seeks. The meaning of being must already therefore be available to us in a certain way. We intimated that we are always already involved in an understanding of being. From this grows the explicit question of the

meaning of being and the tendency towards its concept. We do not *know* what 'being' means. But already when we ask, 'What is being?' we stand in an understanding of the 'is' without being able to determine conceptually what the 'is' means. We do not even know the horizon upon which we are supposed to grasp and pin down the meaning.

(1996: 4)

It should be noted that Heidegger takes being to be both the being of existence and the being of predication. Both to say that an object is and to say that it is something attribute *being* to the object. In the following passage, for example, Heidegger is clear that being is the *is* of existence:

Everything we talk about, mean, and are related to is in being in one way or another. What and how we ourselves are is also a being. Being is found in thatness and whatness, reality, the objective presence of things [Vorhandenheit], subsistence, validity, existence [Da-sein], and in the 'there is' [es gibt].

(1996:5)

And in the following passage he states that being is the is of predication:

'Being' is used in all knowledge and predicating, in every relation to beings and in every relation to oneself, and the expression is understandable 'without further ado.' Everybody understands 'The sky is blue.' 'I am happy,' and similar statements.

(1996: 3)

It might be thought that Heidegger is simply confused in running these two things together; but he is not. For Heidegger, the general form of a statement is 'x is [y]' (where the y is optional); and 'is', which expresses being, is, for Heidegger, the generic logical predicate.

One final preliminary point. The question of being is asked, and asked only, by people. Their nature, *Dasein*, has therefore a very special relationship to the nature of being. That this is so is quite explicit in *Being and Time*; and what this relationship is was also to occupy Heidegger in one way or another throughout the whole of his writings.

The incredible ineffability of being

So much for the question of being. What is its answer? Heidegger came to the view that this question could not be answered, at least, not in any straightforward fashion. What stand in the way of an answer are simple grammatical considerations. Heidegger gives two arguments that I am aware of to show why the question cannot be answered. The first argument appeals to the fact that being is not itself a being:

The being of beings 'is' not itself a being. The first philosophical step in understanding the problem of being consists in avoiding the *mython tina diegeisthai*, in not 'telling a story', that is, not determining beings as beings by tracing them back in their origins to another being — as if being had the character of a possible being.

(1996:5)

But if being is not a being, it follows that one cannot say anything about it. For to say anything of the form 'Being is [so and so]' would be to attribute being to it, and so make it a being, which it is not.

If Heidegger's reasoning is unclear here, it is possible to elucidate it with a similar argument which appears in Frege. According to Frege, one needs to distinguish between objects (the ontological correlates of names) and concepts (the ontological correlates of predicates). The crucial difference is that concepts are 'unsaturated' (inherently gappy). Frege needs to appeal to this fact to explain the unity of the proposition. We need not go into all this here. The important point for our purposes is that it is a consequence of this view that it is a logical mistake to suppose that concepts are objects of a certain kind. In particular, one cannot refer to them by means of a noun phrase at all. In the same way, for Heidegger, beings are objects, things, and *being* is a concept. Indeed, as I have already noted, 'is' is the generic form of predication. One cannot, therefore, refer to being, since it is of the wrong logical category. a fortiori, one cannot say anything about being. For to say anything about being one would have to say something of the form 'Being is . . . ', and so to treat it as an object.

Nothing

Heidegger's second argument for the ineffability of being is spelled out at greatest length in his essay 'What is Metaphysics?' To understand this argument, we have to take what will appear at first to be a digression, and talk about *nothing*.

For Heidegger, *nothing* is a thing, and a very important one at that. It sometimes enjoys the honour of taking a definite article, *the nothing*; and it even does things: nothing nihilates (1977b: 105). This will strike many contemporary philosophers as a simple confusion. In modern logic, 'nothing' is a quantifier phrase, not a noun phrase. *Nothing* is not therefore a substantive. Heidegger was criticized on just this point in a very famous attack by Carnap. Referring to 'What is Metaphysics?', Carnap says

The construction of sentence (1) ['We seek the Nothing'] is simply based on the mistake of employing the word 'nothing' as a noun, because it is customary in ordinary language to use it in this form in order to construct a negative existential statement.... In a correct

language, on the other hand, it is not a particular *name*, but a certain *logical form* of the sentence that serves this purpose.

(1959:70)

But Heidegger is not confused. He is well aware that 'nothing' may be a quantifier. It may also function, however, as a perfectly legitimate noun phrase. For example, in his essay 'The Metaphysical Foundations of Logic', he says

'Thinking about nothing' is ambiguous. First of all, it can mean 'not to think.' But logic as the science of thinking obviously never deals with not thinking. Secondly, it can mean 'to think nothingness', which nonetheless means to think 'something'. In thinking of nothingness, or in the endeavour to think 'it', I am thoughtfully related to nothingness, and this is what thinking is about.

(1992: 3)

And Heidegger is right about this. 'Nothing' can be used as a substantive. If this is not clear, merely ponder the sentence 'Heidegger and Hegel both talked about nothing, but they made different claims about it'. 'Nothing' cannot be a quantifier here. Or consider the sentence:

(*) God brought the universe into being out of nothing.

This means that God arranged for nothingness to give way to the universe. In (*) 'nothing' cannot be parsed as a quantifier. If we do so, we obtain: For no x did God bring the universe into existence out of x. And whilst no doubt this is true if God brought the universe into existence out of nothing, it is equally true if the universe has existed for all time: if it was not brought into existence at a time, it was not brought into existence out of anything. And the eternal existence of the universe is, in part, what (*) is denying.

Nothing, then, may indeed be a thing. But, according to Heidegger, it cannot be talked about:

What is the nothing? Our very first approach to the question has something unusual about it. In our asking we posit the nothing in advance as something that 'is' such and such; we posit it as a being. But that is exactly what it is distinguished from. Interrogating the nothing – asking what, and how it, the nothing, is – turns what is interrogated into its opposite. The question deprives itself of its own object.

Accordingly, every answer to the question is also impossible from the start. For it necessarily assumes the form: the nothing 'is' this or that. With regard to the nothing question and answer are alike inherently absurd.

(1977b: 98f.)

One cannot, therefore, say anything of *nothing*. To say anything, whether that it is something or other, or just that it is, or even to refer to it at all, is to treat it as an object, which it is not. *Nothing* is the absence of all objects. One might note, however, that although one cannot have knowledge by description of nothing, one can, according to Heidegger, have knowledge of it by acquaintance. It is precisely in the experience of anxiety that a person (*Dasein*) comes face to face with *nothing*.

Being and nothing

What has this to do with the ineffability of being? Simply this, that for Heidegger being and nothing are identical. If *nothing* is ineffable, then so is *being*. Heidegger states the pertinent identity as follows:

'Pure Being and pure Nothing are therefore the same.' This proposition of Hegel's (*Science of Logic*, vol. I, *Werke* III: 74) is correct. Being and the nothing do belong together, not because both – from the point of view of the Hegelian concept of thought – agree in their indeterminateness and immediacy, but rather because Being itself is essentially finite and reveals itself only in the transcendence of Dasein which is held out into the nothing.⁷

(1977b: 110)

Heidegger's reason for supposing that being and nothing are the same is difficult to discern, but as far as I understand it it can be summed up in the simple argument:

Being is what it is that makes beings be.

Nothing is what it is that makes beings be.

Hence, being is nothing.

The first premise is true by definition. The conclusion follows validly, assuming that *nothing* is a substantive here.⁸ Only the second premise, therefore, needs to be discussed. The reason for this claim, essentially, is that a being is, and can only be, because it is not a nothing. It stands out, as it were, against nothingness. If there were no nothing, there could be no beings either. As Heidegger puts it:

In the clear night of the nothing of anxiety the original openness of beings as such arises: they are beings – and not nothing. But this 'and not nothing' we add in our talk is not some kind of appended clarification. Rather it makes possible in advance the revelation of beings in general. The essence of the originally nihilating nothing lies in this, that it brings *Da-sein* for the first time before beings as such.

(1977b: 105)

Further, if *nothing* negates itself, it produces what it is not: something. Thus, a being is exactly nothing nihilating itself. Being is, then, nothing operating on itself, as the final sentence of the following quotation suggests:

The nothing is neither an object nor any being at all. The nothing comes forward neither for itself nor next to beings, to which it would, as it were, adhere. For human existence the nothing makes possible the openedness of beings as such. The nothing does not merely serve as the counterconcept of beings; rather it originally belongs to their essential unfoldings as such. In the Being of beings the nihilation of the nothing occurs.

(1977b: 106)

At the heart of each being is exactly nothingness. That is the essence of its being, that is, its being. And since one cannot say what nothing is, one cannot say what being is either.

Stretching language

For two reasons, then, one can say nothing about *being*. The very grammar of our language makes it impossible to do this. The only way we have of talking about being is, in fact, to treat it as *a* being. This obfuscation is one of the central things that Heidegger means by the pejorative term 'metaphysics'.

Heidegger discusses this problem (amongst other things) in his essay *The Question of Being*. The central topic of this essay is what he calls 'the crossing of the line'. Exactly what this is need not concern us here. All that one has to know is that it is what needs to be done to address properly the question of being. Bearing this in mind, one can understand the following:

What if even the language of metaphysics, and even metaphysics itself, whether it be that of the living or of the dead God, as metaphysics, formed the barrier which forbids the crossing over the line . . . ? If that were the case, would not the crossing of the line necessarily become the transformation of language and demand a transformed relation to the essence of language?

(1959a: 71)

The rhetorical questions are then answered in the affirmative:

[T]he question of the essence of Being dies off, if it does not surrender the language of metaphysics, because metaphysical conception forbids the thinking of the question of the essence of being.

(1959a: 73)

Language, at least the language of metaphysics (and we have no other), just cannot do what is required.

Struggling with the problem in the same essay, he tries to get round it by the technique of writing under erasure: writing something and crossing it out. The problem with *being* is that it is not a thing. It exists only in its relation to beings and, in particular, to *Dasein*. Each of these, in fact, exists only in so far as it relates to the other. Heidegger describes the relation of being to *Dasein* anthropomorphically as a 'turning-towards'. Bearing this in mind, one can understand the following passage:

If turning-towards belongs to Being and in such a way that the latter is based on the former, then 'Being' is dissolved in this turning. It now becomes questionable what Being which has reverted into and been absorbed by its essence is henceforth to be thought of. Accordingly, a thoughtful glance ahead into this realm of 'Being' can only write it as Being. The drawing of the crossed lines at first only repels, especially the almost ineradicable habit of conceiving 'Being' as something standing by itself and only coming at times face to face with man Nothingness would have to be written, and that means thought of, just like Being ¹¹

(1959a: 81)

Writing under erasure is not the only linguistic device that Heidegger employed to get round the problem of talking about being. In another late essay, *The Principle of Reason*, Heidegger attempts another way: expressing himself without using the verb 'is' at all. The following quotation explains. Since it also recapitulates a number of other themes we have looked at, I will quote at length:

If we painstakingly attend to the language in which we articulate what the principle of reason [Satz vom Grund] says as a principle of being, then it becomes clear that we speak of being in an odd manner that is, in truth, inadmissible. We say: being and ground/reason [Grund] 'are' the same. Being 'is' the abyss [Abgrund]. When we say of something that it 'is' and 'is such and such', then that something is, in such an utterance, represented as a being. Only a being 'is'; the 'is' itself – 'being' – 'is' not. The wall in front of you and behind me is. It immediately shows itself to us as something present. But where is its 'is'? Where should we seek the presencing of the wall? Probably these questions already run awry. Even so, the wall 'is'.

Hence, there is a peculiar state of affairs with the 'is' and 'being'. In order to respond to it, we articulate what the principle of reason says as a principle of being as follows. Being and ground/reason [Grund]: the same. Being: the abyss [Ab-Grund]. As we remarked, to say 'being' 'is' ground/reason is inadmissible. This way of speaking,

which is in the first instance unavoidable, does not apply to 'being'; it does not hit upon its proper character.

On the one hand we say: being and ground/reason [Grund] – the same. On the other hand we say: being – the abyss [Ab-Grund]. It is a question of thinking the harmony of both 'sentences' [Sätze] – of the sentences that are no longer 'sentences'.

(Heidegger 1991: 51f.; translation adapted)

We have, then, two ways which Heidegger devised in his attempts to struggle with the problem of talking about being. Both of them stretch language in one way or another. But considerations of logical grammar seem to leave no other option.

The limits of description

We have not finished with Heidegger yet, but let us now draw back and look at the bigger picture. Heidegger's arguments appear to present him with a problem which is all too evident. He has shown that being is such that one cannot say anything about it. Yet it is clear that one can say things about it. The quotations from Heidegger I have given are littered with assertions about being, as even a casual perusal suffices to verify. Even Heidegger's techniques of stretching language which we examined in the last section do nothing to solve the problem. Consider writing under erasure. Whether one likes it or not, even 'Being' appears to refer to being - or how are we to understand what Heidegger is talking about? To make matters worse, even Heidegger's own explanation of writing under erasure, which I quoted in the last section, refers to the notion of being in the more usual way. And dropping the verb does not help either. In 'being and ground: the same', one is still conveying the idea that two things are the same, and one is referring to being in the process. Moreover, neither of these techniques obviates the fact that, even if one tries to use a nonstandard form of language, the standard form of language did express what could not be expressed.

Heidegger's predicament is a familiar one in the history of philosophy. In *Beyond the Limits of Thought* (Priest 1995), I argued that there are certain limits of thought that are contradictory. There are boundaries which thought cannot cross, and yet which it does cross. The boundaries are the sites of 'dialetheias', of true contradictions. The boundaries in question are of several kinds (the limits of expression, iteration, cognition and conception/description), but in each case a certain object must be within a fixed totality (the Closure Condition), but must also be outside it (the Transcendence Condition). The book gives several arguments for the dialethic nature of the limits in question, but a major one is based on a repeated and persistent phenomenon encountered in the writings of philosophers who analyse such limits, and who are driven, willy nilly, into contradic-

tion (Priest 1995: 249f.). (If the limits are contradictory, what else would you expect?) Heidegger is not discussed in the book, but it is now clear that he fits the pattern too. Being is a notion that is beyond the bounds of the describable (Transcendence); but it *is* describable (Closure): Heidegger himself shows how.¹²

Heidegger fits the pattern in another way. Many philosophers, once they have realized their contradictory position, have tried to get out of the situation by making an appeal to some non-literal notion of expression (such as metaphor or analogy); but without exception such moves do not work. ¹³ As we saw in the last section, Heidegger, too, employs non-standard modes of language in this way. But as we have also seen these modes are no more successful in achieving their aim than other moves of the same kind.

I do not wish to repeat the details of *Beyond the Limits of Thought*, but let me mention briefly two of the philosophers who figure in it, and whose work is particularly germane here. The first of these is Frege. As we have noted, Frege's doctrine of concept and object means that one cannot refer to concepts by means of noun phrases. But in point of fact we *can* refer to them in this way; we do so when we talk about, e.g. the concept *horse*. As I have already shown, Frege's problem concerning concepts is closely allied to Heidegger's concerning *being*.

Frege realized that he was, by his own lights, in trouble. He insisted that phrases such as 'the concept *horse*' and similar do not refer to concepts, appearances notwithstanding. But the cost of this move is that it makes a nonsense of a great deal else of what Frege claims. ¹⁴ In desperation he says

I admit that there is a quite peculiar obstacle in the way of an understanding with my reader. By a kind of necessity of language, my expressions, taken literally, sometimes miss my thought; . . . I fully realize that in such cases I was relying on the reader who would be ready to meet me half way

(1970:54)

One cannot fail to be reminded of Heidegger's own words about the inherently misleading nature of language, which I quoted in the last section.

The second philosopher I want to mention is Wittgenstein. Frege was driven to his views about the nature of concepts in order to be able to give an account of the unity of the proposition. In the *Tractatus*, what provides for this unity is the logical form of a proposition. The inexpressibility of the concept *horse* and its kind metamorphoses, in that work, into the inexpressibility of the notion of logical form. Wittgenstein's doctrine of saying and showing is meant to apply at this juncture. The form of a proposition (and many other things) cannot be described, but it can be shown. In the end, though, the doctrine of showing did not solve the problem of avoiding saying what cannot be said, since Wittgenstein did, after all, succeed in

saying the things that, on his official line, could only be shown, as Russell wryly remarked in his introduction to the English translation of the *Tractatus* (Wittgenstein 1961: xxi).

But enough of this. Back to Heidegger.

Aletheia and the Law of Non-Contradiction

The arguments for the indescribability of being which I outlined above were all drawn from Heidegger's writings in the period before the *Kehre*, the methodological turn in his thought. After the *Kehre*, Heidegger's writings about being take on a different tone. In particular, Heidegger comes to emphasize that art, and particularly poetry, when understood in the appropriate way *reveal* what being is. For example, he says

The art work opens up in its own way the Being of beings. This opening up, i.e., this revealing, i.e., the truth of beings, happens in the work. In the art work, the truth of beings has set itself to work. Art is truth setting itself to work.

 $(1977c: 166)^{16}$

Though he never says as much (so far as I know), I think that the turn in Heidegger's thought is, at least in part, a response to the fact that you cannot say what being is. Though being cannot be described, it can be shown – or revealed, unconcealed, as Heidegger is more inclined to put it. Art can show us beings in their being, and hence reveal *being* to us. In this way we can *think* being, as he puts it, appropriating the word 'think' for his own purpose. If this is right, then Heidegger's move here is very much like the corresponding move of Wittgenstein's in the *Tractatus*: invoke something (language or art) which shows what it is that cannot be said.¹⁷

The fact, according to Heidegger, that revealing is the canonical way of answering the question of being is a major reason why Heidegger insists on translating the Greek word *aletheia* not as 'truth', as it would normally be translated, but more literally as 'unconcealment'. Poetry reveals being in its *aletheia*. As he explains:

It is not for the sake of etymology that I stubbornly translate *aletheia* as unconcealment, but for the sake of the matter which must be considered when we think adequately that which is called Being and thinking. Unconcealment is, so to speak, the element in which Being and thinking and their belonging together exist.

(1977a: 389)

But why does Heidegger not simply accept the fact that is staring him in the face – that he *can* speak of *being* – that is, *nothing* – albeit inconsis-

tently? This is, of course, quite compatible with the claim that poetry shows us being as well: what can be shown can often be said too. (I can tell you that it is raining, as well as show you.) He addresses this point explicitly in his essay *An Introduction to Metaphysics*, where he writes

He who speaks of nothing does not know what he is doing. In speaking of nothing he makes it into a something. In speaking he speaks against what is intended. He contradicts himself. But discourse that contradicts offends against the fundamental rule of discourse (*logos*), against 'logic'. To speak of nothing is illogical. He who speaks illogically is unscientific. But he who goes so far as to speak of nothing in the realm of philosophy, where logic has its home, exposes himself most particularly to the accusation of offending against the fundamental rule of all thinking. Such speaking about nothing consists entirely of meaningless propositions.

(1959b: 23)

Heidegger thus makes it clear that the ineffability of being is required by Logic; and, specifically, by the Law of Non-Contradiction. Thus, apparently, either our descriptions of being have to go or Logic does. But there is a third possibility: that Logic is simply mistaken about the Law of Non-Contradiction. True contradictions are entirely possible, and the Law is an historical mistake - just like the Euclidean 'law' that the whole must be larger than its parts. This is exactly what, of course, a modern dialethist takes to be the case: the 'Law' is a mistake. Heidegger simply identifies Logic with the received logical theory of his day, forgetting that it, too, is a product of a fallible history. It is an irony that a thinker of the acuity of Heidegger, who was so critical of his historical heritage, should have been blind to the possibility – which logical investigations in the second half of the twentieth century have shown to be a very real possibility – that people had got Logic wrong. Perhaps if Heidegger had been writing later, with a full knowledge of developments in modern logic, he would have said that an adequate thinking of being requires, not simply aletheia, but dialetheia. 18

Notes

- 1 For a start, the nomenclature is singularly misleading. 'Analytic philosophy' has virtually nothing to do with philosophical analysis. This was a philosophical method endorsed by Russell and Wittgenstein early in the twentieth century, and which was quickly rejected even by Wittgenstein himself. 'Continental philosophy' is even more misleading. For a start, it refers, in a very British way, to mainland Europe; but much of what goes on there is not continental philosophy; worse, the origins of analytic philosophy come from the European mainland. (Think of Frege, Wittgenstein, the Vienna Circle, the Lvov–Warsaw School.) For a more detailed discussion of the distinction, see Priest 1999.
- 2 Some translators capitalize the 'B' of 'Being' (and the 'N' of 'Nothing'). This can be a useful convention, but I will not follow it here.

- 3 All italics in quotations are original.
- 4 The *Kehre* is by no means simply a name for the turn in Heidegger's thought, though this is how I will use it here. It is, more importantly, a moment of *being* itself; but we do not need to go into this.
- 5 For further discussion, and references to Frege, see Priest 1995: §§12.1 and 12.2.
- 6 Even if one insists that 'nothing' can only be a quantifier, the situation is not very different, at least if one is a Fregean. For, since it is a quantifier, it is a concept-expression and so refers to a concept (e.g. a first-order quantifier refers to a second-level concept). Now, for Frege, all concept-expressions have reference. So 'nothing' does refer to a thing, in that sense. But one cannot refer to this thing by means of a noun phrase, since it is not an object. One still cannot, therefore, say anything about it, at least, not anything of the form 'Nothing is . . . '. (I am grateful to Richard Gaskin for pointing this out to me.)
- 7 And again: 'Only because the question "What is Metaphysics?" thinks from the beginning of the climbing above, the transcendence, the *Being of* being, can it think of the negative of being, of *that* nothingness which just as originally is identical with Being' (Heidegger 1959a: 101).
- 8 And assuming that 'what it is that . . .' is a definite description, which it is if it specifies the essence of something.
- 9 I am grateful to Jay Garfield for pointing out to me this interpretation of the text.
- 10 Observant readers will have noted from some of the previous quotations that Heidegger had already done something similar with the use of scare quotes.
- 11 Heidegger goes on to explain that the crossing out has not only a negative function; it also has a positive function. The crossing of the arms of an 'X' indicates a pointing. Crossing out 'being' thus indicates that *being* points to *Dasein*. The two are inextricably connected. This point need not concern us here.
- 12 The situation can be put in terms of the Inclosure Schema (Priest 1995: 244). $\varphi(y)$ is 'y can be expressed in language', so that Ω is the totality of things that can be expressed; $\psi(x)$ is ' $x = \Omega$ '; $\delta(\Omega)$ is a claim about being, say that being is what it is that makes beings be. Then, by Heidegger's arguments, we have $\neg \varphi(\delta(\Omega))$: this fact about being cannot be expressed; but Heidegger himself shows that $\varphi(\delta(\Omega))$ by expressing this fact.
- 13 See Priest 1995, esp. 251.
- 14 See Priest 1995: §12.2.
- 15 See Priest 1995: Ch. 12, esp. 212.
- 16 See also the essays in Heidegger 1971.
- 17 Of course, I am not suggesting that the later Heidegger is just rewriting the *Tractatus*. In many ways the two thinkers are attempting something quite different. The point is merely that they make similar moves in response to the same problem.
- 18 Ancestors of this paper were read at the Department of Philosophy, the University of Tasmania, and at a meeting of the Australasian Association of Philosophy, held at the University of Melbourne in 1999. I am grateful to those present for their helpful thoughts.

References

- Carnap, R. (1959) 'The Elimination of Metaphysical Language through Logical Analysis of Language', Ch. 3 of A. J. Ayer (ed.) *Logical Positivism*, Glencoe, Ill.: The Free Press: 60–81.
- Frege, G. (1970) 'Concept and Object', in P. Geach and M. Black (eds) *Translations* from the Philosophical Writings of Gottlob Frege, Oxford: Basil Blackwell, 42–55.
- Heidegger, M. (1959a) *The Question of Being*, trans. W. Kluback and J. T. Wilde, London: Vision.
- ——— (1959b) *An Introduction to Metaphysics*, trans. R. Manheim, New Haven, Conn.: Yale University Press.
- —— (1971) *Poetry, Language, Thought*, trans. A. Hofstadter, New York, N.Y.: Harper & Row.
- ——— (1977a) 'The End of Philosophy and the Task of Thinking', in D. F. Krell (ed.) *Martin Heidegger: Basic Writings*, New York, N.Y.: Harper & Row: 73–92.
- ——— (1977b) 'What is Metaphysics?', in D. F. Krell (ed.), *Martin Heidegger: Basic Writings*, New York, N.Y.: Harper & Row: 95–112.
- —— (1977c) 'The Origins of the Work of Art', in D. F. Krell (ed.) *Martin Heidegger: Basic Writings*, New York, N.Y.: Harper & Row: 149–87.
- (1991) *The Principle of Reason*, trans. R. Lilly, Bloomington, Ind.: Indiana University Press.
- ——— (1992) *The Metaphysical Foundations of Logic*, trans. M. Heim, Bloomington, Ind.: Indiana University Press.
- ——— (1996) *Being and Time*, trans. J. Stambaugh, Albany, N.Y.: State University of New York Press.
- Priest, G. (1995) *Beyond the Limits of Thought*, Cambridge: Cambridge University Press.
- ——— (1999) 'Where is Philosophy at the End of the 20th Century?', An invited address given to a meeting of the Australasian Association of Philosophy, New Zealand Division, Dunedin University.
- Wittgenstein, L. (1961) *Tractatus Logico-Philosophicus*, trans. D. F. Pears and B. F. McGuinness, London: Routledge & Kegan Paul.

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